CITY OF CHINO HILLS

PARADISE RANCH

DRAFT FOCUSED ENVIRONMENTAL IMPACT REPORT

Prepared for:

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I. INTRODUCTION

1. INTRODUCTION

This document is a Focused Environmental Impact Report (EIR) for the proposed Paradise Ranch Project (hereafter referred to as the proposed Project or the Project) in the City of Chino Hills, California. This Focused EIR analyzes the potential environmental impacts of the proposed Project.

The approximately 85.2-acre Project Site is located at 16200 and 16220 Canyon Hills Road in the City of Chino Hills. The Project Site encompasses Assessor's Parcel Numbers (APNs) 1000-051-09 and 1000-051-19. The Proposed Project would subdivide an 85-acre property into a total of 52 lots. The Project would include the development of 50 cluster lots ranging in size from 7,200 to 12,412 square feet. Each of the 50 lots would include the development of a two-story single family residential home. The dwelling units would range in size from 3,970-4,616 square feet (including three-car garages). The residential uses would include six architectural styles, and four different floor plans for each style. Lot 51 will maintain the existing single-family home, and Lot A will remain as vacant native land. The proposed Project is described in more detail in **Section II, Project Description**.

2. EIR PURPOSE, INTENT AND LEGAL AUTHORITY

The California Environmental Quality Act (CEQA) was enacted in 1970 with the objective to inform the public and decision makers of the potential environmental effects of a proposed project. CEQA applies to all discretionary projects proposed to be carried out or approved by California public agencies, including state, regional, county, and local agencies. The proposed Project requires discretionary approvals from the City of Chino Hills (City) and, therefore, is subject to CEQA.

This Focused Environmental Impact Report (EIR) analyzes the potential environmental impacts that may result from the implementation of the proposed Paradise Ranch Project located in the City of Chino Hills. The Focused EIR is intended as an informational document for public agencies, the general public and City of Chino Hills decision-makers regarding the significant environmental impacts that could result from the proposed Project. The CEQA process was established to enable public agencies to evaluate a project in terms of its environmental consequences, to examine and implement mitigation measures for eliminating or reducing any potentially adverse impacts, and to consider alternatives to the project. While CEQA Section 150201(a) requires that major consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must consider the information in the Focused EIR and balance adverse environmental effects against other public objectives, taking into account economic, legal, social, and technological factors.

3. LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The State CEQA Guidelines (California Code of Regulations Section 15000 et. seq.) define lead, responsible, and trustee agencies. For purposes of CEQA compliance, the City of Chino Hills is identified as the Lead Agency for this Project. The Lead Agency is responsible for preparing this Focused EIR in accordance with CEQA (Public Resources Code Section 21000 et. seq.) and the State CEQA Guidelines. As mandated by the CEQA Guidelines, the Focused EIR reflects the Lead Agency's independent review and judgment and objectivity with regard to the scope, content, and adequacy of analysis.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the Project and a trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no responsible or trustee agencies for the proposed Project.

4. ENVIRONMENTAL REVIEW PROCESS

In general, the environmental review process for a Focused EIR are as follows, presented in sequential order.

A. Notice of Preparation

After deciding that an Focused EIR is required, the lead agency must file a Notice of Preparation (NOP) soliciting input on the Focused EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing *(CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the proposed Project could create significant environmental impacts.

B. Draft Focused Environmental Impact Report

The Draft Focused EIR must contain the following:

- Table of contents or index
- Summary
- Project description
- Environmental setting
- Discussion of potentially significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts)
- Discussion of alternatives
- Mitigation measures

C. Notice of Completion/Notice of Availability of Draft Focused EIR

A lead agency must file a Notice of Completion (NOC) with the State Clearinghouse when it completes a Draft Focused EIR and prepare a public Notice of Availability (NOA) for the Draft Focused EIR. The lead agency must place the NOA in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the notice to anyone requesting it *(CEQA Guidelines* Section 15087). Additionally, public notice of Draft Focused EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the Project Site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public, and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft Focused EIR is 30 days. When a Draft Focused EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse (Public Resources Code 21091) approves a shorter period no less than 30 days.

D. Final EIR

Once the Lead Agency has publicly circulated the Draft Focused EIR and collected all of the comments provided by public agencies and the general public, responses are prepared in writing that are included in the Final EIR.

A Final EIR must include: a) the Draft Focused EIR with revisions if necessary; b) copies of comments received during public review; c) list of persons and entities commenting; d) responses to comments; and e) any other information added by the lead agency.

E. Certification of Final EIR

Prior to making a decision on a proposed Project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project *(CEQA Guidelines* Section 15090).

F. Lead Agency Project Decision

A lead agency may: a) deny a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and Statement of Overriding Considerations are adopted *(CEQA Guidelines* Sections 15042 and 15043).

G. Findings/Statement of Overriding Considerations

For each significant impact of the Project identified in the Focused EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible *(CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.

H. Mitigation Monitoring Reporting Program

When an agency makes findings on significant effects identified in the Focused EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.

I. Notice of Determination

An agency must file a Notice of Determination (NOD) within 5 days after deciding to approve a project for which an Focused EIR is prepared *(CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The Notice must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

5. ENVIRONMENTAL IMPACT REPORT BACKGROUND

In accordance with the state CEQA Guidelines, the following steps have been conducted for the Paradise Ranch Project Focused EIR:

A. Notice of Preparation

Based on a preliminary review of the Project, the City of Chino Hills determined that the Project could result in potentially significant environmental impacts. Therefore, the City prepared and circulated a Notice of Preparation (NOP) to the State Clearinghouse, relevant agencies, and interested parties as well as occupants/owners with a 300-foot radius of the Project Site. The City circulated the NOP for this Project for 30 days from March 30, 2022 to April 29, 2022. A public scoping meeting presenting the Project was held by the City on April 13, 2022. A total of eight comment letters were received in response to the NOP. The NOP and Initial Study are provided in Appendix A to this Focused EIR. Input from interested public agencies was received in written form of which area also presented in Appendix B of this Focused EIR.

The EIR addresses the environmental issues where the Project could result in potentially significant impacts. For all other issues considered in the City's environmental checklist, it was determined in the Initial Study (see Appendix A) that either impacts would not be significant or could be reduced to a less than significant level with implementation of standard mitigation measures. Therefore, based on the Initial Study and NOP for the Project, the City, acting as Lead Agency, has determined that there is no substantial evidence that the Project could cause a significant environmental effect relative to the following topics: Aesthetics, Agricultural/Forestry Resources, Energy, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities/Service Systems, and Wildfire. Therefore, this EIR is a Focused EIR, which addresses only the environmental issues where the Project could result in potentially significant impacts. All of the environmental topics listed above were found not to be significant or could be reduced to a less than significant level with implementation of standard mitigation measures. Therefore, these topics are fully analyzed in the Initial Study (see Appendix A) and the Focused EIR does not include additional discussion of these topics.

B. Draft EIR and Public Review Period

The City has prepared and distributed a Notice of Completion/Notice of Availability (NOC/NOA) announcing the availability of a Draft Focused EIR for the proposed Paradise Ranch Project to relevant agencies, neighborhood groups, NOP commenters, interested parties and owners/occupants within 300 feet radius of the Project Site. A minimum 45-day public review period for the Draft Focused EIR would be required by CEQA. During this public review period, the Draft Focused EIR is available for public review on the City's website at:

https://chinohills.org

Hardcopies can be made available for review at City Hall and all City libraries (CEQA Guidelines Section 15087) by request.

6. EIR SCOPE AND CONTENT

The Initial Study (Appendix A to this Focused EIR) identified environmental issue areas that were determined not to be significant. As stated above, these issue areas were scoped out from further analysis

in the Focused EIR, however they are discussed in **Section VII, Effects Found Not To Be Significant** and have been fully analyzed in the Initial Study which is located in Appendix A. These issue areas are listed below:

- **Aesthetics** – All subtopics
- **Agricultural/Forestry Resources** – All subtopics
- **Energy** – All subtopics
- **Hazards & Hazardous Materials** – All subtopics
- **Hydrology/Water Quality** – All subtopics
- **Land Use/Planning** – All subtopics
- **Mineral Resources** – All subtopics
- **Population/Housing** – All subtopics
- **Public Services** – All subtopics
- **Recreation** – All subtopics
- **Utilities/Service Systems** – All subtopics
- **Wildfire** – All subtopics

The Focused EIR addresses the environmental issues where the proposed Project could result in potentially significant impacts. The scope of the environmental issues to be analyzed in this Focused EIR include:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Noise
- Transportation
- Tribal Cultural Resources

This Focused EIR addresses the abovementioned issues and identifies the potential environmental impacts, including project specific and cumulative effects, of the proposed Project. Cumulative impacts, which consider other projects in the immediate vicinity, are discussed in each resource area analysis section of Focused EIR. The cumulative analyses are based on a list of past, present, and probable future projects that could produce related or cumulative impacts on the environment. In addition, the Focused EIR recommends mitigation measures, where feasible, that would eliminate or reduce significant environmental effects.

Section VI, Alternatives*,* of the Focused EIR was prepared in accordance with Section 15126.6 of the CEQA Guidelines*.* The alternatives discussion evaluates the CEQA required "no project" alternative and one alternative development scenario. It also identifies the environmentally superior alternative among the alternatives assessed.

The Focused EIR references pertinent City policies and guidelines, certified EIRs, adopted CEQA documents, and background documents prepared by the City. A full reference list is contained in **Section X, References**.

The level of detail contained throughout this Focused EIR is consistent with the requirements of CEQA and applicable court decisions. The *CEQA Guidelines* provide the standard of adequacy on which this document is based. The *Guidelines* state:

> *"An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure. (Section 15151)"*

II. PROJECT DESCRIPTION

1. INTRODUCTION

The proposed Paradise Ranch Project would subdivide an 85-acre property into a total of 52 lots. The Project would include the development of 50 cluster lots ranging in size from 7,200 to 12,412 square feet. Each of the 50 lots would include the development of a two-story single-family home. The dwelling units would range in size from 3,970-4,616 square feet (including three-car garages). The residential uses would include six architectural styles, and four different floor plans for each style. Lot 51 will maintain the existing single-family home, and Lot A will remain as vacant native land.

Vehicular parking is provided in private garages and driveway spaces. A total of 250 parking spaces: 150 private garage spaces, and 100 driveway spaces would be provided.

2. PROJECT LOCATION AND EXISTING SITE CONDITIONS

A. Project Location

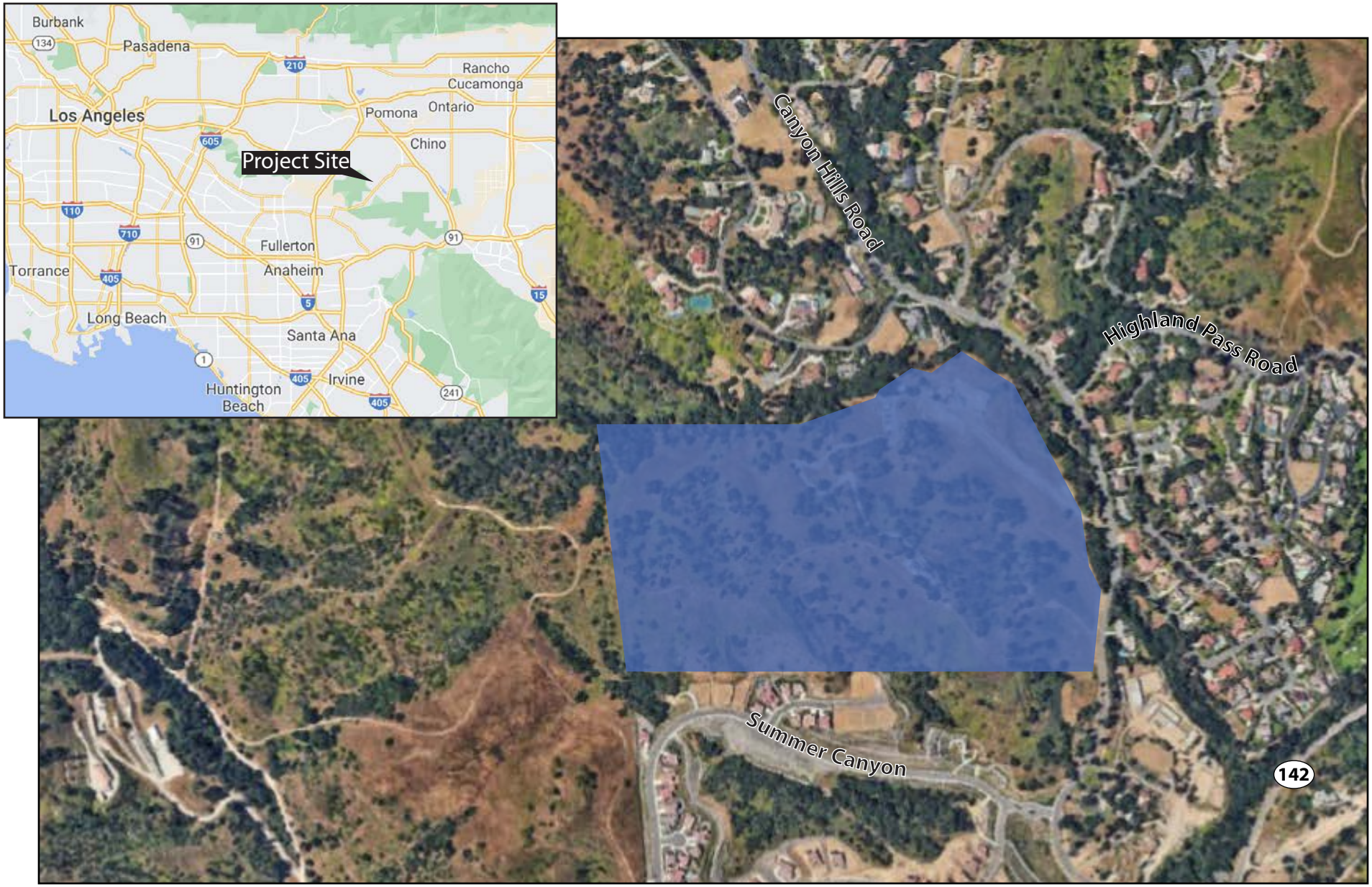
The Project Site is located in the City of Chino Hills, in the southwestern corner of San Bernardino County. The City of Chino Hills is a community with high quality residential and commercial areas in a rural setting and is bounded by the Cities of Diamond Bar and Pomona to the north, the City of Chino to the east, the City of Corona and the Fremont Canyon Nature Preserve to the south, and the City of Yorba Linda and Brea to the west.

The approximately 85.2-acre Project Site is in a rural area at 16200 and 16220 Canyon Hills Road in the City of Chino Hills. The Project Site encompasses Assessor's Parcel Numbers (APNs) 1000-051-09 and 1000-051-19 and is bounded by single-family residential to the north, south and east, and by undeveloped land to the west. Esquilime Drive is located further north of the Project Site, Saint Joseph Hill of Hope is located further west of the Project Site, and Summer Canyon is located further south of the Project Site (see **Figure II-1, Regional and Vicinity Map**).

B. Existing Site Conditions

The Project Site is currently split into two lots, one located at 16200 Canyon Hills Road (Parcel 1 of Parcel Map 2949) in the northeastern portion of the Project Site, and one located at 16220 (remainder parcel) in the western portion of the Project Site. The 10.71-acre lot is located at 16200 Canyon Hills Road that is currently developed with an approximately 1,250-square foot, three-bedroom single-family home, a barn, stables, and fenced pasture that was constructed in the 1920s.[1] The 71.9-acre lot is located at 16220 Canyon Hills Road that is currently developed with an approximately 1,180-square foot, two bedroom

[1] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-09-0-000.*



Project Site

Source: Google, 2021

EcoTierra consulting

Figure II-1
Regional and Vicinity Map

single-family home that was built in 1915.[2] The 16220 Canyon Hills Road residence will remain on-site as Lot Number 51.

The rest of the area is undeveloped, hillside slopes, and is covered with native and non-native vegetation. The hillsides and undeveloped area to the west which make up Lot A will remain vacant. Elevations range from a low of approximately 959 feet to a high of approximately 1,256 feet. Project Site photos are presented in **Figure II-2, Existing Site Photos**.

C. Existing Mobility Options

i) Regional Access and Local Street Network

Regional access to the Project Site is provided by State Route 142/Carbon Canyon Road (SR-142) located approximately 0.8 miles to the south of the Project Site via Canon Hills Road. SR-142 provides direct access to SR-71 (Chino Valley Freeway), approximately 4.2 miles northeast of the Project Site. Local access to the Project Site is provided via Canyon Hills Road.

ii) Public Transit

Public transit bus service is provided in the Project area by OmniTrans, a public transportation agency in San Bernardino County. In September 2020, OmniTrans launched a new micro transit service known as OmniRide, which is a reservation-based, on-demand transit service similar to that of Uber and Lyft. Trips can be reserved either over the phone or by using the OmniRide On-Demand mobile app between the hours of 6:00 AM and 8:00 PM on weekdays only. The OmniRide service will pick-up and drop-off at a "virtual stop"; the nearest virtual stops located within the Project vicinity are at Canyon Hills Road/Summer Canyon and Highland Pass Road/Greens Drive.

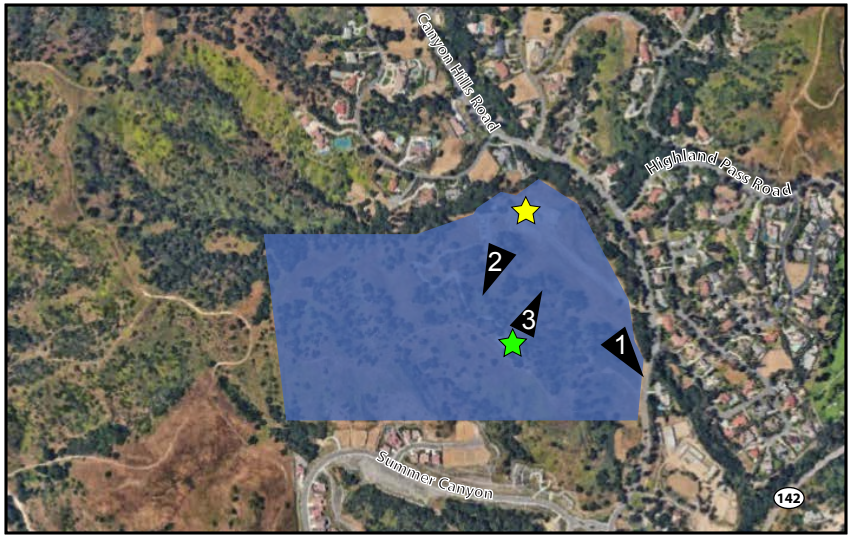
It should be noted that OmniRide replaced the OmniGo Route 365 and the Access ADA Service which previously served the Chino and Chino Hills communities. A modified Route 365 is planned to remain, in a post-COVID-19 environment, to provide school tripper service to Chino Hills High School students when in-person teaching resumes.

3. PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines requires a project description to contain a statement of a project's objectives and Section 15124(b) requires that the statement of objectives includes the underlying purpose of the project. The applicant's objectives for the proposed Project include:

- Develop an underutilized site with a well-designed and compatible residential Project that is consistent with the character and operational characteristics of surrounding uses in the area.
- To provide a Project that is economically viable and increases the number of housing units to help meet the demand for new housing in the City of Chino Hills.

[2] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-19-0-000.*



Project Site
House and Stables
Views
House

View 1: Looking Northwest from Canyon Hills Road Toward House and Stables on Project Site

View 2: Aerial View Looking Northeast Toward House and Stables on Project Site

View 3: Aerial View Looking Southwest Toward House That Will Remain on Project Site

Source: Google, 2021

- To create a Project that complements and enhances the aesthetic character of the area through high quality urban and architectural design and enhances the area around the Project Site.
- To create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City.
- Ensure a financially feasible Project that promotes the City's economic well-being, increases the local tax base.

4. PROJECT CHARACTERISTICS

A. Proposed Project

The Project would demolish the 1,250 square foot, three-bedroom single-family home, barn, and stables. The applicant is proposing to subdivide the 85.2-acre property into a total of 52 lots. Lots 1 through 50 will include the development of a single-family homes, Lot 51 will maintain the existing single-family home. The Project includes the development of six architectural styles with a total of four different floor plans for each style. The six architectural styles include: Adobe Ranch, Cottage Farmhouse, Monterey Andalusian, Santa Barbara, Agrarian Traditional, and Tuscan Farmhouse. The design of the single-family homes also includes three enhanced elevations: Front Enhanced, Side Enhanced, and Rear Enhanced. There are a total of four different floor plans for the single-family homes, each of which are two-story and range between four and five bedrooms. Floor Plan 1 is approximately 3,970 square feet (including garage), Floor Plan 2 is approximately 3,946 square feet (including garage), Floor Plan 3 is approximately 4,373 square feet (including garage), and Floor Plan 4 is approximately 4,616 square feet (including garage). See **Figures II-3 through II-11**, at the end of this section, for site plan, elevations, and floor plans.

Lots 1 through 50 will range from a lot size of 7,200 square feet to 12,412 square feet. Lot 51 will maintain the existing single-family home on-site and Lot A will remain vacant native land. A summary of the Project development is provided in **Table II-1, Project Development Summary**.

Table II-1
Project Development Summary

Lot Number	Unit Type	Total Living Area Square Footages With Garages (sf)	Lot Area (sf)	Lot Coverage %
Lot 1	1A	3,970	7,907	32.2
Lot 2	3B	4,373	7,201	35.6
Lot 3	2D	3,946	9,219	29.2
Lot 4	4ER	4,616	11,031	25.0
Lot 5	3CR	4,373	8,473	31.7
Lot 6	1AR	3,970	7,207	35.3
Lot 7	3BR	4,373	7,282	36.9
Lot 8	1C	3,970	8,902	28.6
Lot 9	2F	3,946	8,168	31.4

Table II-1
Project Development Summary

Lot Number	Unit Type	Total Living Area Square Footages With Garages (sf)	Lot Area (sf)	Lot Coverage %
Lot 10	4E	4,616	9,684	28.4
Lot 11	3A	4,373	12,412	21.7
Lot 12	1B	3,970	7,292	34.9
Lot 13	3AR	4,373	7,760	34.9
Lot 14	2E	3,946	7,458	34.4
Lot 15	4DR	4,616	7,413	37.1
Lot 16	1B	3,970	7,416	34.3
Lot 17	4F	4,616	7,353	37.4
Lot 18	1A	3,970	7,204	35.3
Lot 19	2ER	3,946	7,205	35.6
Lot 20	3BR	4,373	7,308	36.8
Lot 21	1C	3,970	7,489	34.0
Lot 22	4D	4,616	9,893	27.8
Lot 23	2F	3,946	8,066	31.8
Lot 24	4ER	4,616	9,670	28.5
Lot 25	4FR	4,616	9,800	28.1
Lot 26	2D	3,946	7,447	34.4
Lot 27	4FR	4,616	10,976	25.1
Lot 28	3C	4,373	8,396	32.0
Lot 29	2DR	3,946	7,554	33.9
Lot 30	1BR	3,970	7,342	34.7
Lot 31	3AR	4,373	8,066	33.3
Lot 32	4DR	4,616	7,852	35.1
Lot 33	2F	3,946	8,058	31.8
Lot 34	4E	4,616	8,420	32.7
Lot 35	1C	3,970	10,395	24.5
Lot 36	3B	4,373	10,738	25.0
Lot 37	4FR	4,616	8,194	33.6
Lot 38	2ER	3,946	9,162	28.0
Lot 39	3AR	4,373	9,264	29.0
Lot 40	1B	3,970	7,731	32.9
Lot 41	3CR	4,373	7,458	36.0
Lot 42	2ER	3,946	7,200	35.6
Lot 43	3A	4,373	7,287	36.9
Lot 44	4DR	4,616	7,444	37.0
Lot 45	2FR	3,946	7,464	34.4
Lot 46	4ER	4,616	7,568	36.4
Lot 47	3C	4,373	7,764	34.6
Lot 48	4D	4,616	7,859	35.0
Lot 49	2F	3,946	7,425	34.5
Lot 50	1C	3,970	7,202	35.3

Table II-1
Project Development Summary

Lot Number	Unit Type	Total Living Area Square Footages With Garages (sf)	Lot Area (sf)	Lot Coverage %
sf = square-feet *Unit Type Number = Floor Plan Type. There are four different floor plan options.* *A= Adobe Ranch* *B=Cottage Farmhouse* *C=Monterey Andalusian* *D=Santa Barbara* *E=Agrarian Traditional* *F=Tuscan Farmhouse* *R=Reversed Floor Plan* *Source: KTGY Group, July 2020.*				

i) Zoning, Development Standards and Building Height

The Project Site is currently zoned R-R (Rural Residential) in the City, which designates the land use of the property as Rural Residential. The Project is proposing to develop under the City's Clustering Ordinance No. 298, and the City of Chino Hills Municipal Code (CHMC) Section 16.10.030. Per Ordinance No. 298, a cluster development is a means of preserving open space while permitting residential development by clustering single-family homes on only a portion of the parcel, thereby preserving the remainder of the parcel in open space and reducing the amount of grading required. The clustering of single-family homes into a small area is made possible by reducing the individual lot sizes and corresponding development standards. This Ordinance is intended to allow the City to establish development standards, regulations, and review procedures for clustering single-family residential development in the Agriculture-Ranch (R -A) and Rural Residential (R -R) zoning districts.

Per CHMC Section 16.10.030, clustering is permitted for certain designated properties to protect environmental and visual resources. As an alternative to the development standards set forth in Exhibit "A" Table 20-1(A) of Section 16.10.030, designated properties within the R-A and R-R zone may apply to have the clustering standards set forth in Exhibit "B" Table 20-1(B) of CHMC Section 16.10.030.

Applications for clustering apply through and comply with the requirements of the site plan review process (Chapter 16.76) and the additional following requirements:

1. Applications to cluster must clearly demonstrate that clustering results in:

    i. Reduced grading;

    ii. Reduced roadways and driveway intrusions into sensitive habitat areas, open space, and the Chino Hills State Park;

    iii. Protection of increased amounts of open space; and

    iv. Protection of environmental and visual resources.

The R-R Clustering Development Standards are provided in **Table II-2, R-R Residential Zone District Clustering Development Standards**. As shown, in **Table II-2**, Zoning District R-R Clustering includes a maximum building height of 35 feet.

Table II-2
R-R Residential Zone District Clustering Development Standards

Development Standard	Zoning District R-R Clustering	Project Consistency With Development Standards
A. Minimum Project Size	10 acres	85.2 acres
B. Minimum Lot Size (Single-Family Detached Residential Development) or Minimum Project Area	7,200 sf.	7,200 sf. (Lot 42)
C. Minimum Lot Width	50 ft. min.; 60 ft. avg.	50 ft. min.; 60 ft. avg.
D. Minimum Lot Depth	N/A	N/A
E. Maximum Lot Coverage by: Buildings	40%	37.4%
F. Maximum Coverage In Front Yard by Impervious Surfaces	50%	50%
G. Maximum Number of Units [a]		
i) Roadway Plan Contribution	2 du/1.0 ac	
ii) Non-Roadway Plan Contribution	1 du/1.0 ac	50
iii) Properties along Carbon Canyon Road that are less than 20 acres	N/A	N/A
H. Maximum Building Height [b]	35 ft.	33 ft.
I. Minimum Front Yard Setback		
i) Primary structure	20 ft. min	20 ft. min
ii) Garage	20 ft. min	20 ft. min
iii) Structures with Side Loaded Garages	16 ft min for the garage or the primary structure	N/A
J. Minimum Side Yard Setback:		
i) Collector or Larger Street Side	25 ft.	N/A
ii) Local Street Side	15 ft.	15 ft.
iii) Other Side	10 ft.	10 ft.
K. Minimum Rear Yard Setback	15 ft.	15 ft.
L. Minimum Usable Private Open Space	N/A	2,188,152 sf.
M. Minimum Landscape Coverage	Refer to Landscape Manual	Refer to Plans

[a] *If development of the Project Site requires the completion of the full width of a roadway segment consistent with the City's Circulation Element Roadway Plan (Figure 2-1 in the General Plan Circulation Element) along the property line of, or within the property comprising the Project Site, then the maximum number of dwelling units permissible under the General Plan is allowed. If development of the Project Site does not include completion of a roadway segment consistent with the City's Circulation Element Roadway Plan, then the maximum number of dwelling units allowed is limited to fifty percent (50%) of the maximum number of dwelling units permissible under the General Plan. Notwithstanding the above, the number of dwelling units may be further reduced based on site specific environmental constraints.*

[b] *Exempt antennas as defined in this Development Code are exempt from the maximum height restrictions*

Source: Chino Hills Municipal Code Section 16.10.030, Exhibit "B" Table 20-1 (B) R-A and R-R residential Zone Districts-Clustering Development Standards.

B. Project Design and Architecture

Lots 1 through 50 will include the development of single-family homes and Lot 51 will retain the existing single-family home. The Project includes the development of six architectural styles with a total of four different floor plans for each style. The six architectural styles include: Adobe Ranch, Cottage Farmhouse, Monterey Andalusian, Santa Barbara, Agrarian Traditional, and Tuscan Farmhouse (see **Figure II-5, Elevation Styles (A)** and **Figure II-6, Elevation Styles (B), Elevation Styles**). The design of the single-family homes also includes three enhanced elevations: Front Enhanced, Side Enhanced, and Rear Enhanced. There are a total of four different floor plans for the single-family homes, each of which are two-story and range between four and five bedrooms (see **Figure II-7 through II-10, Floor Plans**). Additionally, the architectural materials to be used for the exterior would be limited to materials that do not cause excessive glare, such as stucco and faux wood trim, vinyl, and adobe brick.

The Project's main design principles includes a cluster development. A cluster development is a means of preserving open space while permitting residential development by clustering single-family homes on only a portion of the development parcel, thereby preserving the remainder of the parcel in open space and reducing the amount of grading required (see **Figure II-4, Site Plan**). The clustering of single-family homes into a small area is made possible by reducing the individual lot sizes and corresponding development standards.

C. Access, Parking and Circulation

Development of the Project would include the construction of three new streets, "A" Street, "B" Street, and "C" Street which provide access to the single-family homes. Vehicle access to the Project Site would be provided via two new intersections with Canyon Hills: Canyon Hills and "A" Street; and Canyon Hills and "C" Street (see **Figure II-3, Tentative Tract Map**). "B" Street would be a cul-de-sac with access to both "A" and "C" Streets. The new streets would provide an elongated circular configuration through the development.

The Project is required to provide 150 covered (within garage) parking spaces and 100 uncovered parking spaces per CHMC Title 16, Chapter 16.34.060 (Table 65-1), Number of Automobile Parking Spaces Required. The Project would include the development of 250 parking spaces: 150 private garage spaces, and 100 driveway spaces.

D. Open Space and Landscaping

In order to preserve open space areas and maintain the desired rural character of Chino Hills, the municipal code requires new development to provide open and natural space areas. CHMC, Chapter 160.8.070 (Open Space Requirements), delineates the minimum amount (percentage) of land required to be set aside as open space, which varies on the slope of the land. It also delineates the minimum amount (percentage) of natural open space, which is defined as land unchanged from its natural state or land that is shaped and/or planted to recreate natural conditions. To meet the Open Space Requirements, approximately 50 acres (Lot A) of open and natural open space areas would be provided. Lot A would include approximately 40 acres of natural open space and 10 acres of manufactured open space. Further, the Project would provide an equestrian multi-use trail on the Project Site's frontage along Canyon Hills Road. The Tract Map will include a covenant for open space use and an open space easement for the Homeowner's Association HOA to maintain.

The Project would also provide landscaping to enhance the streetscape. As shown in **Figure II-11, Conceptual Landscaping Plan**, trees and other landscaping features such's as ground cover, shrubs, and vines would be planted throughout the Project Site and along "A" Street, "B" Street, and "C" Street. Front yard shade trees would be provided on each of the residential lots.

There are 1,287 native trees (including one heritage tree; tree no. 1284) that meet the City's definition of protected trees located within and adjacent to the limits of the Project Site. The site's trees are comprised of four native tree species that meet the City's criteria for a protected native tree: coast live oak, California black walnut, scrub oak, and western sycamore.[3]

As discussed in the Tree Replacement Plan[4],254 trees (including 46 dead trees) will be impacted by the Project. Per Municipal Code Chapter 16.90 a due to the direct impact and encroachment on 254 trees, those trees would need to be replaced with a total of 591 replacement trees of various sizes (59 24-inch box trees, 236 36-inch box trees, and 296 48-inch box trees) at a ratio of 2.3:1. As stated above, the applicant is proposing to remove protected oak trees and replant them on-site. Pursuant to CHMC 16.90.070, the Project's proposed removal of protected trees will be subject to a Tree Removal Permit.

In total, the Project would provide approximately 125 trees on the slope area of the Project Site (125 trees are required per CHMC 16.90), 48 front yard trees, and 112 street trees.

E. Lighting and Signage

The Project would include low voltage level decorative exterior lights on the proposed single-family homes near the front doors and garages for security and wayfinding purposes. All lighting would comply with current energy standards and codes as well as design requirements while providing appropriate light levels. Project lighting would be designed following CHMC Section 16.09.070 Lighting Guidelines and would provide efficient on-site lighting, reducing sky-glow, and improving nighttime visibility through glare reduction. Specifically, all on-site exterior lighting, would be shielded or directed toward areas to be illuminated to limit spill-over onto adjacent streets, nearby residential uses or to cause glare to motorists (CHMC Section 16.48.040 Lights).

Proposed signage would be designed to be aesthetically compatible with the proposed architecture of the Project Site and with the requirements of the CHMC. Proposed signage would include community monument signs with split face pilasters and angled wall with sign panel at the "A" Street intersection and the "C" Street intersection. Illumination used for Project signage would comply with light intensities set forth in CHMC Section 16.38.020.

F. Sustainability Features

The Project residences would be designed to meet the requirements of the most current California Green Building Code and CHMC Section 16.09.090. The Project would include the following water conservation techniques:

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[3] *Protected Tree Report for the 16220 Canyon Hills Road Project (TTM 20286), Dudek, October 2020.*

[4] *Tree Replacement Plan for the 16220 Canyon Hills Road Project (TTM 20286) City of Chino Hills, California, Dudek, November 2021.*

- Water conserving plants, and plants native to hot, dry summers, utilized in 95 percent of the total plant area,
- Irrigation zones separated by plant material,
- Use of hydro zones with plants grouped based on the amount of water needed to sustain them,
- Soil amendments utilized to improve water holding capacity of the soil,
- Automatic irrigation system adjusted seasonably with watering hours between 9:00 p.m. and 9:00 a.m.,
- Irrigation system design to water different areas of the landscape based on watering need; and
- Recommendations given for an annual irrigation schedule.

5. ANTICIPATED CONSTRUCTION SCHEDULE

The Project would be constructed over approximately 20 months. Major construction phases would be as follows:

- Demolition
- Excavation/Grading/Foundation
- Construction/Framing/Finishing

The Project would require the net export of approximately 59,075 cubic yards of soil and approximately 41,410 cubic yards of import of soil. The likely outbound haul routes for the Project would be via Canyon Hills Road to SR142. Waste Management would provide short term roll-off dumpster service to the Project Site. Exported materials would be disposed of in the dumpsters provided by Waste Management and hauled to a the El Sobrante Landfill in Corona.

Demolition activities are anticipated to start in February 2023, and construction completion and building occupancy are anticipated in July 2025**.**

6. REQUESTED PERMITS AND PROJECT APPROVALS

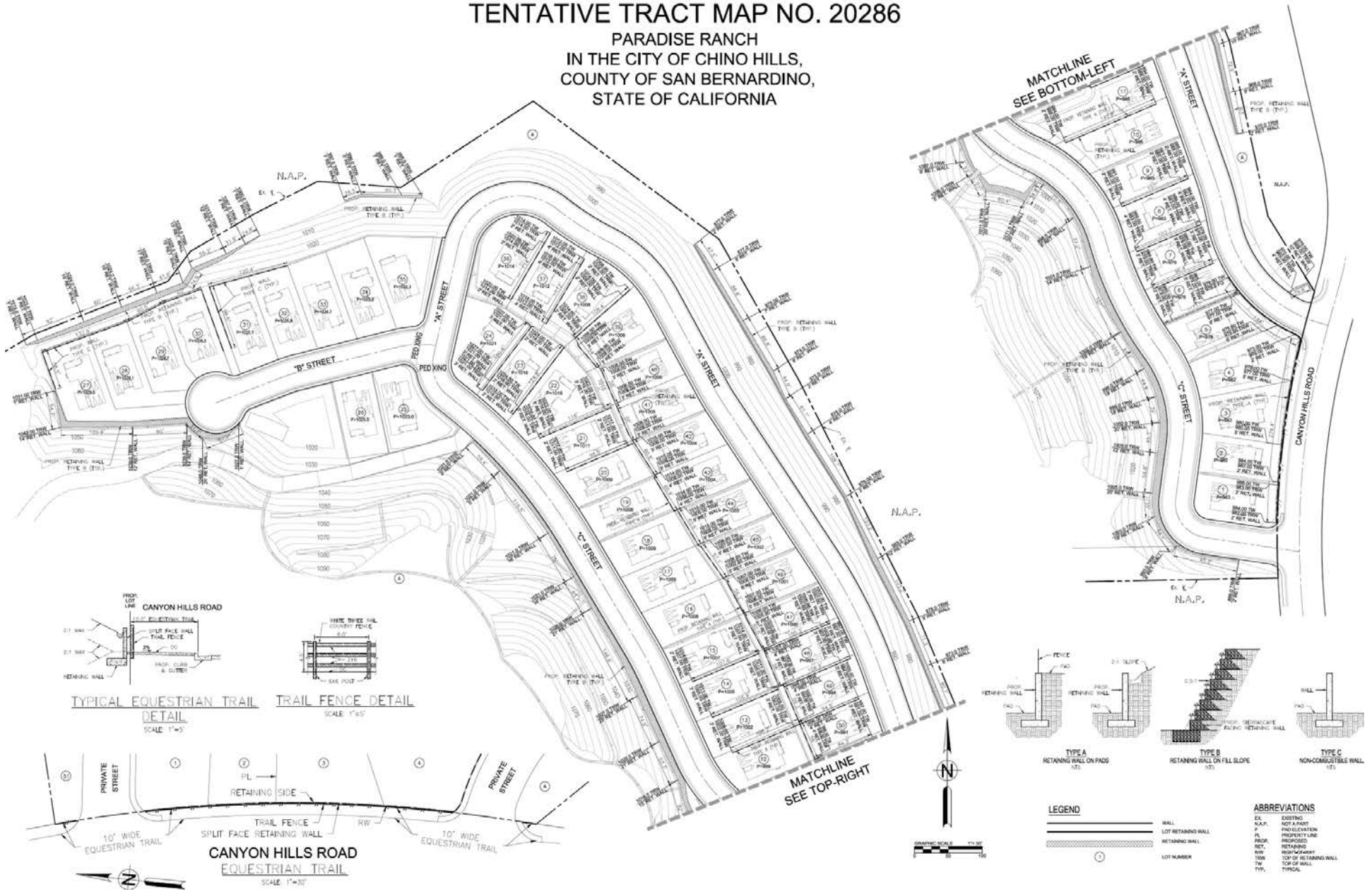
Consistent with CEQA Guidelines Section 15065 (b), the City of Chino Hills (the City) is the lead agency for the proposed Project. As such, this Focused EIR will be used by the City to both evaluate the potential environmental impacts that would result from the proposed Project, and develop conditions of approval, which would those impacts for which mitigation measures are proposed in the Focused EIR. The City Council will consider approval of the Project as part of the City's development review process and would certify the project's Final EIR concurrently with project approval. In order to construct the proposed Project, the applicant is requesting the following discretionary approvals from the City:

- Tentative Tract Map,
- Site Plan Review for Clustered development,

- Tract Design Review,
- Tree Removal Permit,
- Demolition, grading, excavation, and building permits at time of development,
- Caltrans Traffic Control Encroachment Permit, for any traffic control signage added to State Route 142 during import and export of soil, and
- Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to, encroachment permit, haul route permit, temporary street closure permits, foundation permits, and sign permits.

7. INTENDED USES OF THE EIR

The proposed Project would require the discretionary approval of the City of Chino Hills' Planning Commission. This document evaluates potential environmental impacts associated with implementation of the proposed Project and provides information regarding environmental effects of the proposed Project. The Focused EIR shall also serve to inform the public, decision-makers, elected officials, and other stakeholders regarding the proposed Project, and to solicit input on the nature and scope of potential environmental effects. The Focused EIR provides the City of Chino Hills decision-makers with a technically and legally adequate source of information to be used in the decision-making process in considering the proposed Project.



Source: FORMA Engineering, Inc., 2021.

PROJECT SUMMARY - SITE

BUILDING AND ZONING CODE SUMMARY

TYPE OF CONSTRUCTION	V
EXISTING OCCUPANCY	R-R
PROPOSED OCCUPANCY	R-R
LAND USE DESIGNATION	
EXISTING	RURAL RESIDENTIAL
PROPOSED	RURAL RESIDENTIAL
ZONING REQUIREMENT	
MIN. PROJECT SIZE	10 ACRES
MIN. LOT SIZE	7,200 SF
MIN. LOT WIDTH	50 FT./60 FT. AVG.
MIN. LOT DEPTH	NA
MAX. LOT COVERAGE/HOUSE	40%
MAX. FRONT YARD COVERAGE	
OF IMPERVIOUS SURFACE AREAS	50%
MAX. DENSITY PER SITE	2 DU PER 1 AC.
MAX. BUILDING HEIGHT	35 FT.
MIN. FRONT YARD SETBACK	20 FT.
MIN. SIDE YARD SETBACK	
LOCAL STREET	15 FT.
TYPICAL SIDE YARD	10 FT.
MIN. REAR YARD SETBACK	15 FT.
PORCHES ALLOWED TO ENCROACH 5 FT.	
MIN PRIVATE OPEN SPACE REQUIRED	NA

SITE SUMMARY

ACRES	85.2 Acres (Net) 3,711,312 SF (Net)
TOTAL UNITS PROPOSED	50 UNITS
DENSITY PROPOSED	1.9 DU/AC
LOT COVERAGE	REFER TO CIVIL DWGS.

UNIT PLAN SUMMARY

	PLAN 1	PLAN 2	PLAN 3	PLAN 4
DESCRIPTION	2-STORY 4BD/LOFT/4.5 BA	2-STORY 5BD/4.5 BA	2-STORY 5BD/4.5BA	2-STORY 5BD/LOFT/4.5 BA
# OF UNITS	11	12	13	14
TOTAL LIVING PER PLAN (GROSS)	3336 SF (±) (36,696 SF)	3311 SF (±) (39,732 SF)	3734 SF (±) (48,542 SF)	3984 SF (±) (55,776 SF)
GARAGE (GROSS)	634 SF (±)	635 SF (±)	639 SF (±)	632 SF (±)
TOTAL LIVING AREA (GROSS)	(180,746 SF) (±)			

PARKING SUMMARY	(Per table 65-1 of Chapter 16.34.060)
REQUIRED TOTAL	250
PROVIDED	
PRIVATE GARAGE SPACES	150
DRIVE WAY SPACES	100
OPEN PARALLEL STREET SPACES	181
TOTAL PARKING SPACES PROVIDED	431
RATIOS	8.62 PER HOUSE

OPEN SPACE SUMMARY (PER Exhibit "B" Table20-1(B) of Chapter 16.08.070)

MIN. PRIVATE OPEN SPACE NOT REQUIRED

COMMON OPEN SPACE IS BASED ON THE LOT COVERAGE AND FRONT YARD NON-IMPERVIOUS AREAS*

NOTE: REFER TO CIVIL DRAWINGS FOR CALCULATIONS

ELEVATIONS STYLE LEGEND

- A - ADOBE RANCH
- B - COTTAGE FARMHOUSE
- C - MONTEREY ANDALUSIAN
- D - SANTA BARBARA
- E - AGRARIAN TRADITIONAL
- F - TUSCAN FARMHOUSE

ENHANCED ELEVATION LEGEND

- FRONT ENHANCED
- SIDE ENHANCED
- REAR ENHANCED

NOTES:

THIS SITE PLAN IS TO BE USED ONLY FOR REFERENCING FLOOR PLAN TYPES AND ARCHITECTURAL STYLES. REFER TO CIVIL DRAWINGS FOR GRADING AND SITE SPECIFIC ITEMS.

Source: KTGY Group, 2021

FRONT ELEV. PLAN 1A
ADOBE RANCH

FRONT ELEV. PLAN 1B
COTTAGE FARMHOUSE

FRONT ELEV. PLAN 1C
MONTEREY ANDALUSIAN

*ALL FRONT ELEVATIONS ARE ENHANCED

Source: KTGY Group, 2020

FRONT ELEV. PLAN 2D
SANTA BARBARA

FRONT ELEV. PLAN 2E
AGRARIAN TRADITIONAL

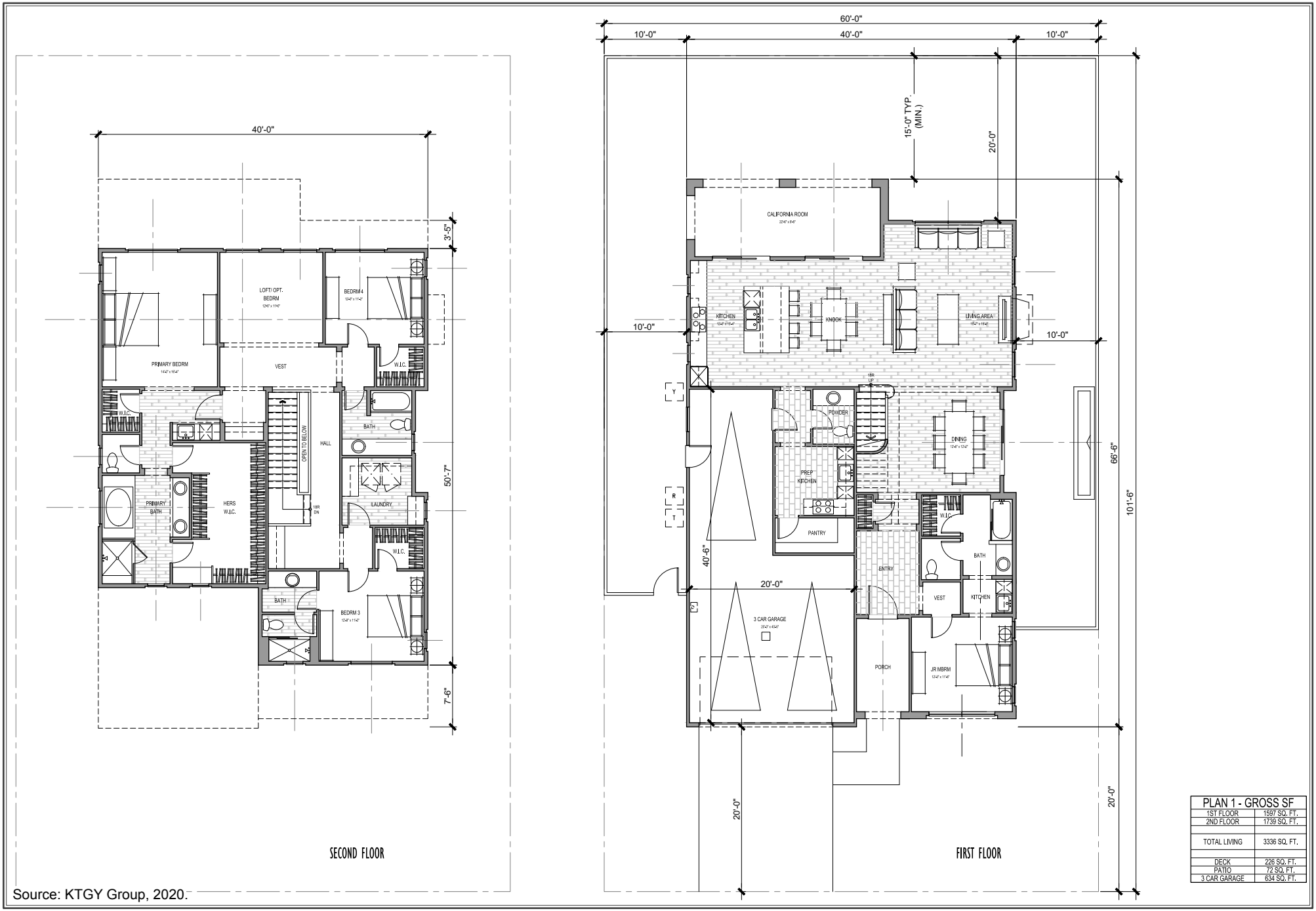
FRONT ELEV. PLAN 2F
TUSCAN FARMHOUSE

*ALL FRONT ELEVATIONS ARE ENHANCED

Source: KTGY Group, 2020

EcoTierra consulting

Figure II-6
Elevation Styles (B)

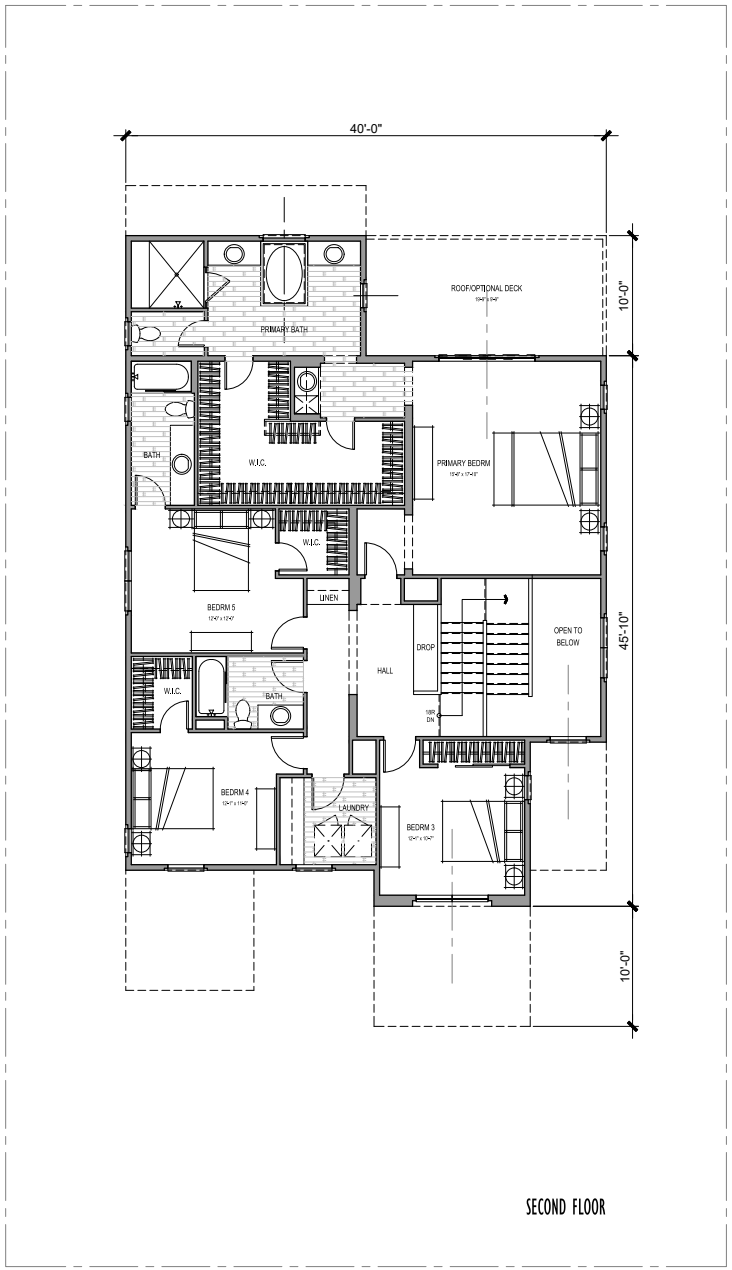


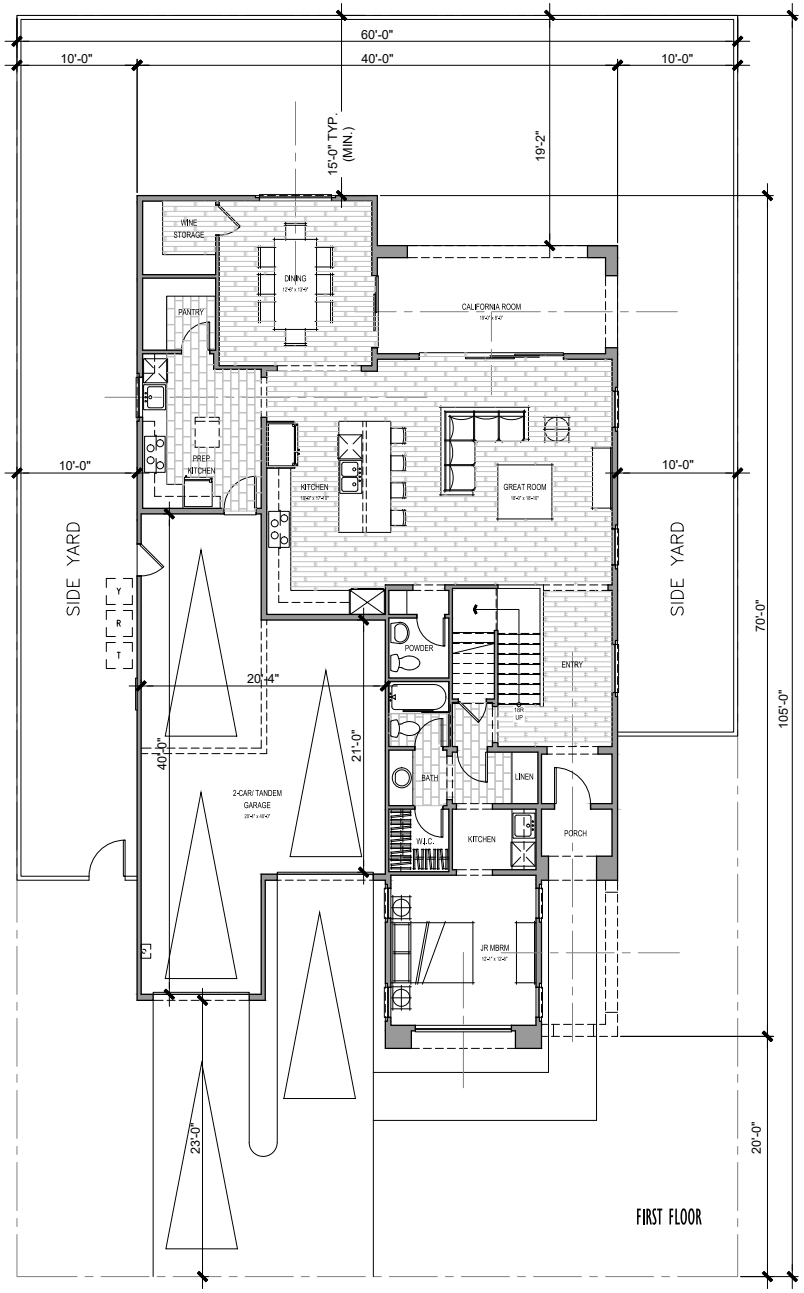
PLAN 1 - GROSS SF	
1ST FLOOR	1597 SQ. FT.
2ND FLOOR	1739 SQ. FT.
TOTAL LIVING	3336 SQ. FT.
DECK	226 SQ. FT.
PATIO	72 SQ. FT.
3 CAR GARAGE	634 SQ. FT.

Source: KTGY Group, 2020.

EcoTierra consulting

Figure II-7
Plan 1 Floor Plan



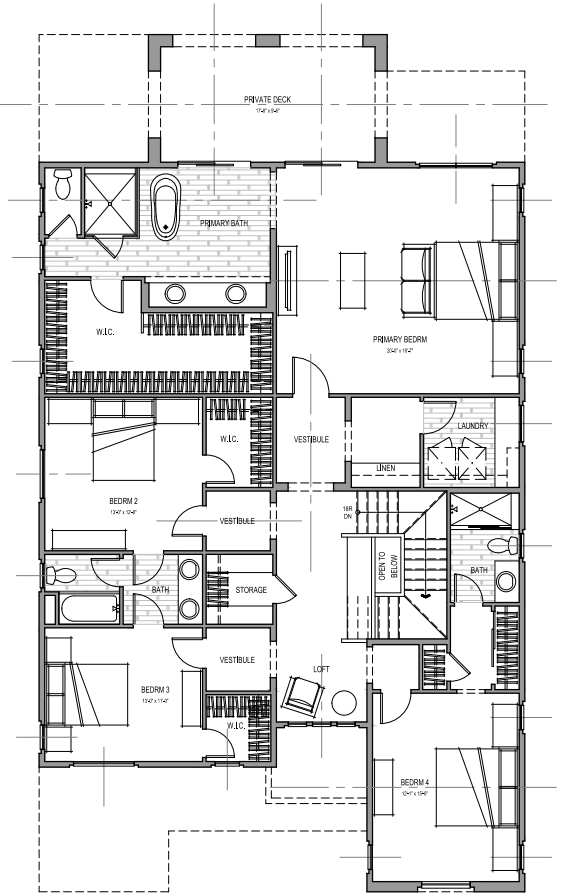


PLAN 2 - GROSS SF	
1ST FLOOR	1603 SQ. FT.
2ND FLOOR	1708 SQ. FT.
TOTAL LIVING	3311 SQ. FT.
DECK	200 SQ. FT.
PATIO	180 SQ. FT.
3 CAR GARAGE	635 SQ. FT.

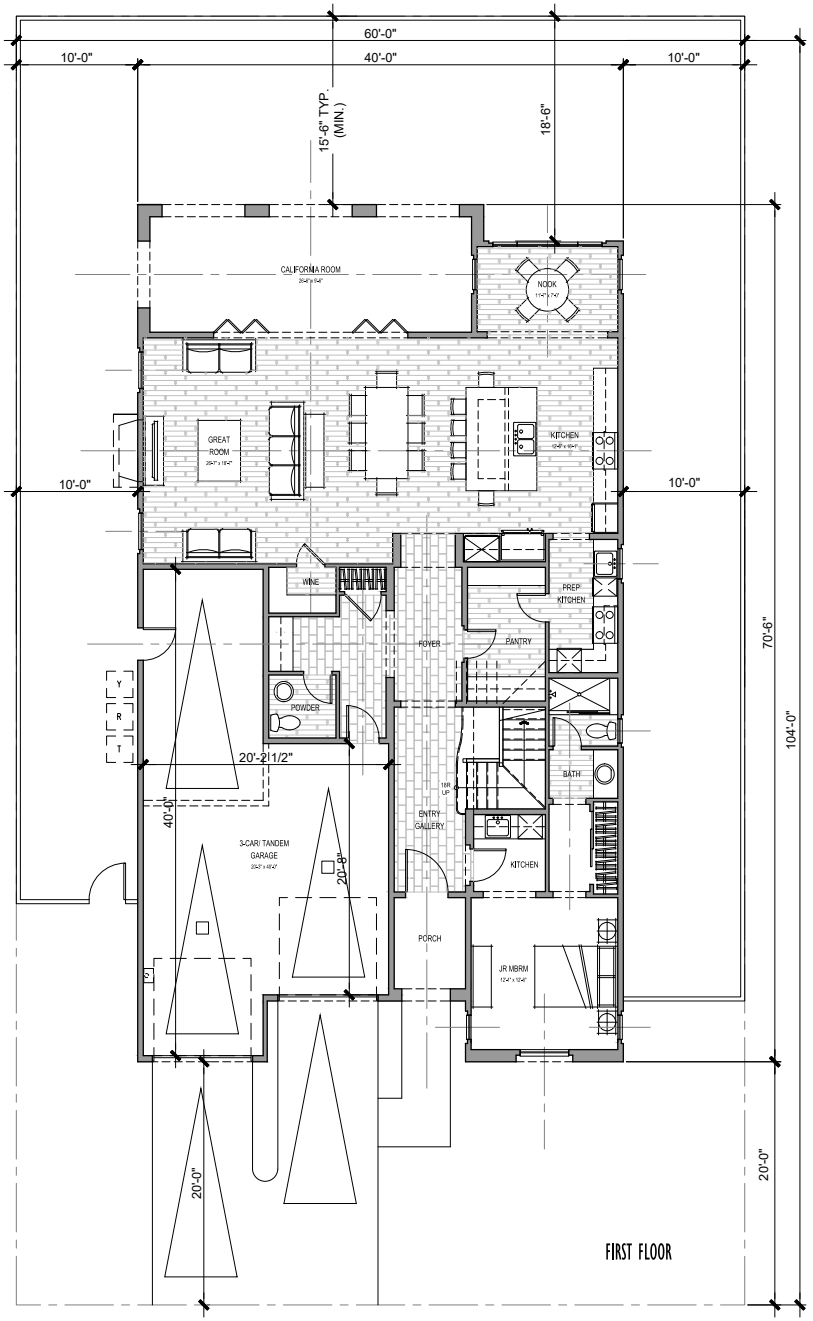
Source: KTGY Group, 2020

EcoTierra consulting

Figure II-8
Plan 2 Floor Plan



SECOND FLOOR



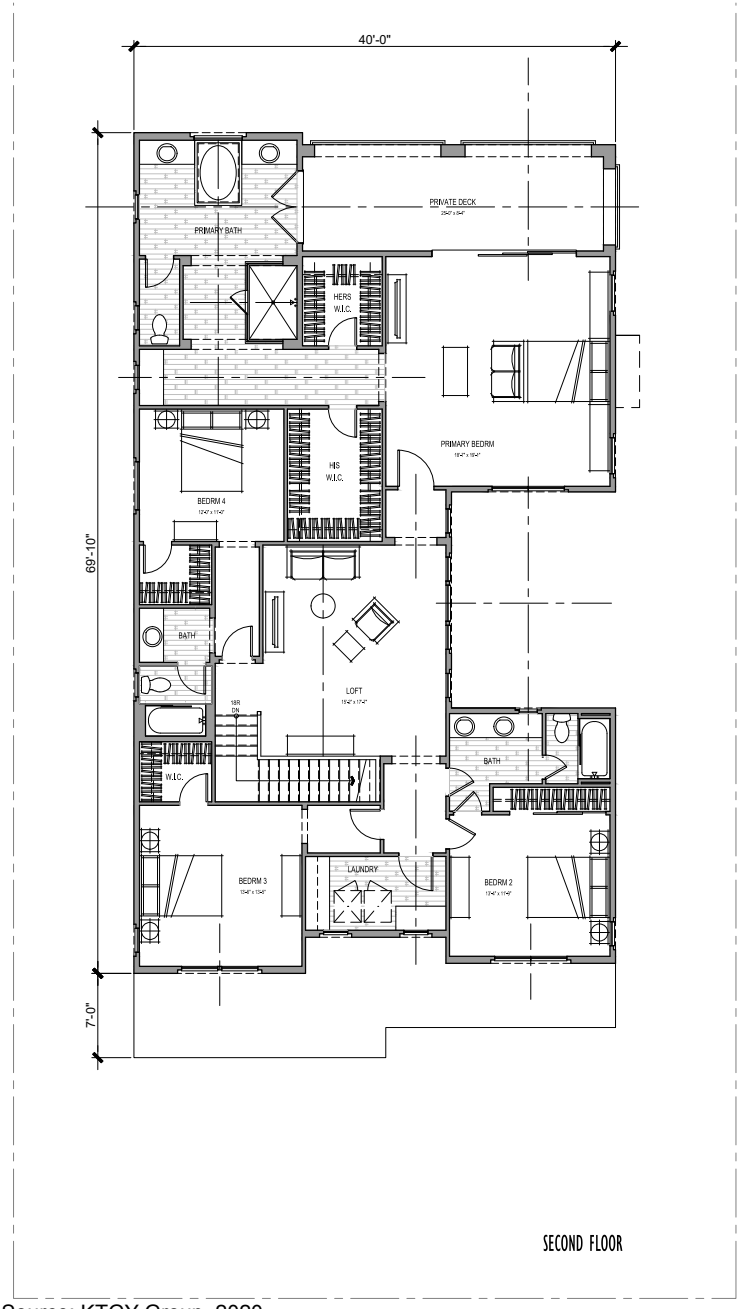
FIRST FLOOR

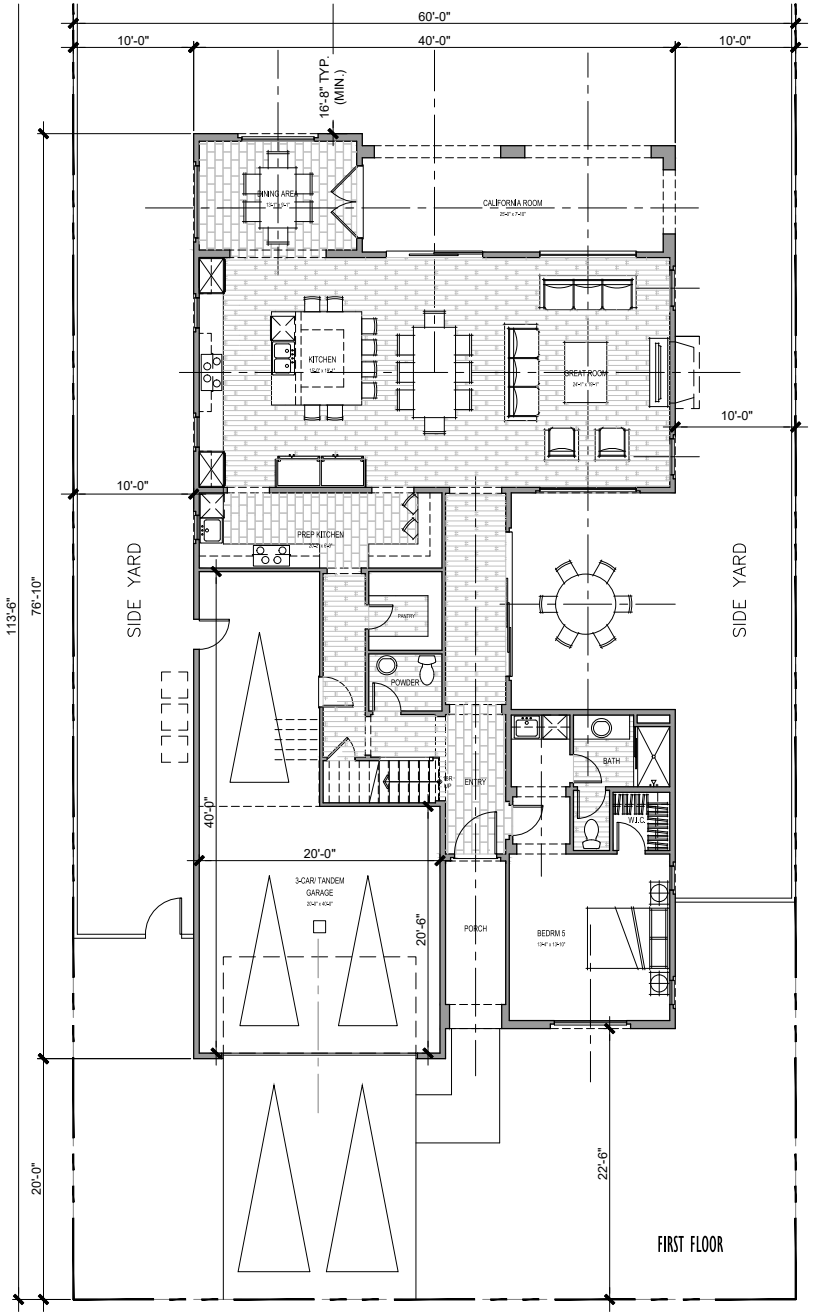
PLAN 3 - GROSS SF	
1ST FLOOR	1717 SQ. FT.
2ND FLOOR	2017 SQ. FT.
TOTAL LIVING	3734 SQ. FT.
DECK	292 SQ. FT.
PATIO	54 SQ. FT.
3 CAR GARAGE	639 SQ. FT.

Source: KTGY Group, 2020

EcoTierra consulting

Figure II-9
Plan 3 Floor Plan





PLAN 4 - GROSS SF	
1ST FLOOR	1812 SQ. FT.
2ND FLOOR	2172 SQ. FT.
TOTAL LIVING	3984 SQ. FT.
DECK	243 SQ. FT.
PATIO	71 SQ. FT.
3 CAR GARAGE	632 SQ. FT.

Source: KTGY Group, 2020

EcoTierra consulting

Figure II-10
Plan 4 Floor Plan

Source: SMP Environmental Design, 2021

EcoTierra consulting

Figure II-11
Conceptual Landscape Plan

III. ENVIRONMENTAL SETTING

1. INTRODUCTION

This section provides an overview of the Project Site's regional and local setting. Additional descriptions of the environmental setting as it relates to each of the environmental issues analyzed in this Focused EIR are included in the environmental setting discussions contained within **Sections IV.A through IV.H.** A list of cumulative projects, which is used as the basis for the discussion of cumulative impacts in **Section IV (Environmental Impact Analysis)**, is also provided below.

2. BASELINE EXISTING CONDITIONS

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the proposed Project to provide the "baseline condition" against which Project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published or when environmental analysis begins. The NOP for the proposed Project was published on March 30, 2022.

However, the CEQA Guidelines and the Courts have recognized that the date for establishing an environmental baseline cannot be rigid. The California Supreme Court determined that "[n]either CEQA nor the CEQA Guidelines mandate a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence." (Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310, 320). The Supreme Court further stated that "Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods. In some circumstances, peak impacts or recurring periods of resource scarcity may be as important environmentally as average conditions. Where environmental conditions are expected to change quickly during the period of environmental review for reasons other than the proposed project, project effects might reasonably be compared to predicted conditions at the expected date of approval, rather than to conditions at the time analysis is begun." (Communities for a Better Environment, supra, 48 Cal.4th at p. 328.)

The NOP year for existing conditions (2022) is generally used as the baseline environmental setting for analyzing most of the Project's impact areas in this Focused EIR.

3. OVERVIEW OF EXISTING CONDITIONS

A. Regional Setting

The Project Site is located in the City of Chino Hills, in the southwestern corner of San Bernardino County. The City of Chino Hills is a community with high quality residential and commercial areas in a rural setting and is bounded by the City's of Diamond Bar and Pomona to the north, the City of Chino to the east, the City of Corona and the Fremont Canyon Nature Preserve to the south, and the City of Yorba Linda and Brea to the west.

In Chino Hills, the summers are short, hot, arid, and clear and the winters are long, cool, and partly cloudy. Over the course of the year, the temperature typically varies from *41°F* to *88°F* and is rarely below *41°F* or above *88°F*.[1]

B. Project Site Setting

The approximately 85.2-acre Project Site is in a rural area at 16200 and 16220 Canyon Hills Road in the City of Chino Hills. The Project Site encompasses Assessor's Parcel Numbers (APNs) 1000-051-09 and 1000-051-19 and is bounded by single-family residential to the north, south and east, and by undeveloped land to the west. Esquilime Drive is located further north of the Project Site, Saint Joseph Hill of Hope is located further west of the Project Site, and Summer Canyon is located further south of the Project Site (see **Figure II-1, Regional and Vicinity Map**).

The Project Site is currently split into two lots, one located at 16200 Canyon Hills Road (Parcel 1 of Parcel Map 2949) in the northeastern portion of the Project Site, and one located at 16220 (remainder parcel) in the western portion of the Project Site. The 10.71-acre lot located at 16200 Canyon Hills Road was built in the 1920s and is developed with an approximately 1,250-square foot, three-bedroom single-family home, a barn, stables, and fenced pasture.[2] The 71.9-acre lot located at 16220 Canyon Hills Road was built in the 1915 and is developed with an approximately 1,180-square foot, two-bedroom single-family home.[3] This single-family home at 16220 Canyon Hills Road will remain on-site as Lot Number 51. The rest of the area is undeveloped, hillside slopes, and is covered with native and non-native vegetation. The hillsides and undeveloped area to the west which make up Lot A will remain vacant. Elevations range from a low of approximately 959 feet to a high of approximately 1,256 feet. Project Site photos are presented in **Figure II-2, Existing Site Photos**.

C. Surrounding Uses

The Project Site is surrounded by residential development on the north, south, and east. To the west, the adjacent parcel is undeveloped. To the north and east of the Project Site is the Oak Tree Downs Community, which includes single-family homes. To the west of the Project Site is undeveloped land, further to the west is the Saint Joseph Hill of Hope, a religious institution. To the south of the Project Site is the Hillcrest development, a private gated community of low-density single-family homes. Surrounding land use photos are presented in **Figure III-1, Surrounding Land Use Photos**.

D. Circulation/Transportation Setting

Regional access to the Project Site is provided by SR-142/Carbon Canyon Road located approximately 0.8 miles to the south of the Project Site via Canon Hills Road. Local access to the Project Site is provided via Canyon Hills Road.

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[1] *Source: MD Acoustics, 2021. Western U.S. Climate Historical Summaries, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9847.*

[2] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-09-0-000.*

[3] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-19-0-000.*

Project Site

Views

View 1: Aerial View Looking North Toward the Residential Uses Located North of Project Site

View 2: Aerial View Looking Northeast Toward the Oak Tree Downs Community Located East of the Project Site

View 3: Aerial View Looking Northwest Toward the Hillcrest Development Located South of Project Site

Source: Google, 2021

EcoTierra consulting

Figure III-1
Surrounding Land Use Photos

Public transit bus service is provided in the Project area by OmniTrans, a public transportation agency in San Bernardino County. In September 2020, OmniTrans launched a new micro transit service known as OmniRide, which is a reservation-based, on-demand transit service similar to that of Uber and Lyft. Trips can be reserved either over the phone or by using the OmniRide On-Demand mobile app between the hours of 6:00 AM and 8:00 PM on weekdays only. The OmniRide service will pick-up and drop-off at a "virtual stop"; the nearest virtual stops located within the Project vicinity are at Canyon Hills Road/Summer Canyon and Highland Pass Road/Greens Drive.

It should be noted that OmniRide replaced the OmniGo Route 365 and the Access ADA Service which previously served the Chino and Chino Hills communities. A modified Route 365 is planned to remain, in a post-COVID-19 environment, to provide school tripper service to Chino Hills High School students when in-person teaching resumes.

The principal local network of streets serving the Project Site consists of Carbon Canyon Road (SR-142), Chino Hills Parkway, and Canyon Hills Road. The streets adjacent to the Project Site that form the Project block are described as follows:

Carbon Canyon Road (SR-142) is generally a north-south, two-lane undivided roadway. The posted speed limit on Carbon Canyon Road is 50 miles per hour (mph). On-street parking is not permitted on either side of the roadway. The intersection of Carbon Canyon Road at Canyon Hills Road is stop-controlled, whereas the intersection of Carbon Canyon Road at Chino Hills Parkway is controlled by a traffic signal. The City of Chino Hills Bicycle Master Plan identifies Carbon Canyon Road as a Class II bicycle facility north of Old Canyon Road, and a Class III bike route south of Old Canyon Road.

Chino Hills Parkway is generally an east-west, four-lane divided roadway within the vicinity of the Project. The posted speed limit on Chino Hills Parkway is 45 mph. On-street parking is not permitted on either side of the roadway. Per the City of Chino Hills General Plan Circulation Element, Chino Hills Parkway is considered a State Route east of Carbon Canyon Road and a Minor Arterial west of Carbon Canyon Road. The intersection of Carbon Canyon Road at Chino Hills Parkway is controlled by a traffic signal. The City of Chino Hills Bicycle Master Plan identifies Chino Hills Parkway as a Class II bicycle facility.

Canyon Hills Road is generally an east-west, two-lane undivided roadway located to the east of the Project Site. The prima facie speed limit on Canyon Hills Road is 25 mph. On-street parking is not permitted on either side of the roadway. The intersection of Carbon Canyon Road at Canyon Hills Road is stop-controlled.

4. CUMULATIVE PROJECTS

CEQA Guidelines Section 15355 defines cumulative impacts as "two or more individual actions that, when considered together, are considerable or which compound or increase other environmental impacts". "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). For example, traffic impacts of two nearby projects may be insignificant when analyzed separately but could have a significant impact when analyzed together. Cumulative impact analysis allows the Focused EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) in the vicinity of

the proposed Project has been researched at the City of Chino Hills and City of Chino. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. There are 19 cumulative projects in the City of Chino Hills and six cumulative projects in the City of Chino within the vicinity of the Project Site. These 25 cumulative projects have been included as part of the cumulative background setting. The Focused EIR conservatively assumes that all approved and pending projects will be completed and operational.

Table III-1, List of Related Projects, provides the location and a brief description for each of the twenty-five (25) cumulative projects. **Figure III-2, Related Projects Location Map** graphically illustrates the location of the cumulative projects. These projects are considered in the cumulative analysis in Section IV. Environmental Impact Analysis. It is important to note, the list below contains a list of past, present, and probable future projects compiled at the time of the publication of the NOP on March 30, 2022.

Table III-1
List of Related Projects

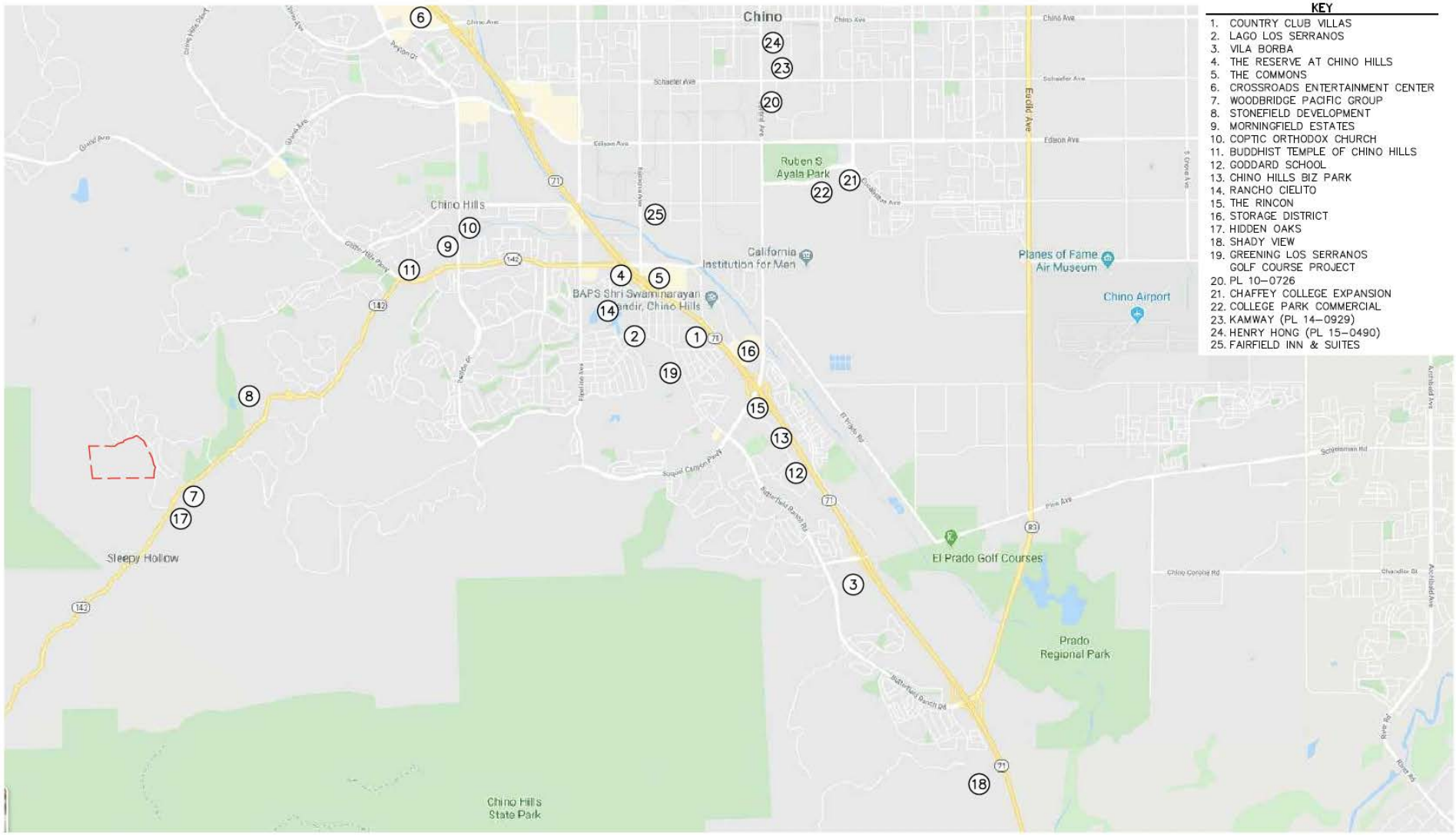
No.	Project Location	Location	Description
1	Country Club Villas	On Pomona Rincon Road between Wallace Ave and Los Serranos Road	70 DU condominium project Built/Occupied: Phase 1: 24 DU condominiums Under Construction/partially occupied: Phase 2: 28 DU condominiums Entitled/To Be Constructed: Phase 3: 18 DU Condominiums
2	Lago Los Serranos	Southwest corner of Ramona Avenue and Bird Farm Road	95 DU condominium project Built/Partially Occupied: 35 DU condominiums Under Construction: 60 DU condominiums
3	Vila Borba	West and east of Butterfield Ranch Road near Pine Avenue	Under Construction: Tract 15989- 6 DU single family Entitled: Tract 16413 19 DU single family Entitled: Tract 164145 - 280 DU multifamily units and 5-acre commercial center
4	The Reserve at Chino Hills	Reserve at Chino Hills Apartment Complex	Proposed/Under Review: 42 DU multifamily
5	The Commons	South of Chino Hills Parkway, east of Ramona Avenue and north of SR-71	533,675 SF existing shopping center Built/Unoccupied: 63,300 SF of floor area for Anchor tenant Entitled/Unbuilt: 53,500 SF of floor area
6	Crossroads Entertainment Center	Northwest of Chino Avenue and SR-71	Entitled:4,050 SF multi-tenant building consisting of 2,258 SF Burger King with drive thru and 1,792 SF retail/restaurant tenant space
7	Woodbridge Pacific Group (Canyon Hills/Hillcrest)	Northwest of Carbon Canyon Road and west of Canyon Hills Road	76 DU single family development Built/Occupied: 58 DU single family Entitled/To Be Constructed: 18 DU single family

Table III-1
List of Related Projects

No.	Project Location	Location	Description
8	Stonefield Development	Northwest of Carbon Canyon Road and east of Fairway Drive	Entitled: 28 DU single-family
9	Morningfield Estates and Loving Savior of the Hills Lutheran Church and School Master Plan Addendum	South of Morningfield Drive, west of Peyton Drive, north of Chino Hills Parkway, adjacent to San Bernardino County Flood Channel	Entitled: 7-Lot Subdivision with semi-custom single-family homes, plus 3 classrooms/71 student addition to the Lutheran School
10	Coptic Orthodox Church	East side of Peyton Drive, north of the Chino Creek Drainage Channel and south of the Chino Valley Community Church property	Entitled: 14,695 SF multi-purpose room, 8,645 SF Sanctuary and 555 SF Bookstore
11	Buddhist Temple of Chino Hills	Northeast of Chino Hills Parkway and Rustic Drive	Entitled: 23,400 SF Buddhist temple expansion
12	Goddard School	South of Pomona Rincon Road and east of Picasso Drive	Entitled/Under Construction: 10,587 SF childcare facility/pre-school with two outdoor play areas; 9 classrooms with a capacity of 180 students and 22 employees
13	Biz Park (formerly Heritage Professional Center)	Pomona Rincon Road (south of The Rincon)	Proposed/Under Review: 141,650 sq. ft. office/retail, 46,000 sq. ft. warehouse – 187,650 sq. ft. of Building
14	Rancho Cielito	48.37 acres is generally located north of Los Serranos Boulevard, south of Lakeview Drive and east of Pipeline Avenue	Proposed/Under Review: 354 residential apartment units, consisting of 7 two-story and 7 three-story residential carriage buildings, 10 three-story residential buildings and 2 clubhouses.
15	The Rincon	Southwest corner of Soquel Canyon Parkway and State Route 71	Entitled 70,000 SF; 4-story 119 room hotel (Holiday Inn Express) Construction Plans submitted for City review Under Construction: 30,000 SF 3-story medical office building and 6,500 SF single story medical office building (Spectrum MRI buildings) and 10,000 SF of retail/restaurant (2 total buildings)
16	Storage District	Vacant pad in Fairfield Ranch Business Park (to the northeast of the Chino Hills Hotel	Entitled/Under Construction: 130,139-square foot self-storage facility, including a 2,000- square foot guest lobby and business service area; Construction to start in late 2019/early 2020

Table III-1
List of Related Projects

No.	Project Location	Location	Description
17	Hidden Oaks	East of Carbon Canyon Road at Canyon Hills Road	Proposed: 53 DU Single Family
18	Shady View	Terminus of Shady View Drive	Proposed: 159 DU Single Family
19	PL10-0726	Southeast corner of Shaefer Avenue and Central Avenue	13,672 sq. ft. Offices
20	Chaffey College Expansion	Generally located south of College Park Avenue and west of Eucalyptus Avenue	93.5 acres Junior/Community College
21	College Park Commercial	Generally located south of College Park Avenue and west of Eucalyptus Avenue	7.5 acres Commercial Park
22	Kamway (PL 14-0929)	Northeast corner of Shaefer Avenue and Central Avenue	21,572 sq. ft. Industrial building
23	Henry Hong (PL 15-0490)	Northeast corner of Shaefer Avenue and Central Avenue	62,200 sq. ft. Industrial building
24	Fairfield Inn & Suites	Southwest corner of Yorba Avenue and Eucalyptus Avenue	111 room Hotel
Source: Linscott Law & Greenspan, Traffic Study, March 21, 2022.			



Source: Linscott, Law & Greenspan Engineers, August 2021.

EcoTierra consulting

Figure III-2
Related Projects Location Map

IV. ENVIRONMENTAL IMPACT ANALYSIS
A. AIR QUALITY

1. INTRODUCTION

This section of the Focused EIR assesses the existing air quality conditions in the South Coast Air Basin and evaluates the potential construction and operational air quality impacts of the proposed Project. The purpose of this analysis is to identify the construction-related and operational emissions that would be generated by the proposed Project and compare them with the established standards, including the thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD). This section is based on information provided in Appendix C of this Draft Focused EIR, which includes *Paradise Ranch Project Air Quality and Greenhouse Gas Impact Study, City of Chino Hills, prepared by MD Acoustics, LLC, on April 26, 2022.*

2. ENVIRONMENTAL SETTING

A. Climate and Meteorological Setting

The Project Site is located in the City of Chino Hills within the southwestern portion of County of San Bernardino, which is part of the South Coast Air Basin (Basin). The Basin is named so because its geographical formation is that of a Basin, with the surrounding mountains trapping the air and its pollutants in the valleys below. The Basin in an approximately 6,745 square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. This Basin includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas where the Project Site is located. The majority of the annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunderstorms in the coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. Year-to-year patterns in rainfall are unpredictable because of fluctuations in the weather.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the Basin are radiation inversions, which form on clear winter nights

when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the Basin include marine, subsidence, and high-pressure inversions.

Summers are often periods of hazy visibility and occasionally unhealthful air. Strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloudtrap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the Project vicinity.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Basin, there is not enough traffic to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the Project vicinity.

The temperature and precipitation levels for the City of Yorba Linda, the closest monitoring station to the Project Site with available meteorological data, are in **Table IV.A-1, Meteorological Summary**. **Table IV.A-1** shows that August is typically the warmest month and January is typically the coolest month. Rainfall in the Project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table IV.A-1
Meteorological Summary

	Temperature (˚F)		
Month	**Average High**	**Average Low**	**Average Precipitation (inches)**
January	66.9	41.7	2.99
February	68.4	43.3	3.10
March	70.6	44.2	2.37
April	73.5	46.7	1.11
May	76.5	51.0	0.30
June	81.3	54.6	0.04
July	87.9	58.2	0.01
August	88.4	58.5	0.10
September	86.5	56.2	0.31
October	80.6	52.2	0.53
November	74.6	46.8	1.31
December	68.6	42.7	2.21
Annual Average	**77.0**	**49.7**	**14.4**
Source: MD Acoustics, 2021. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9847.			

B. Local Air Quality

The SCAQMD is divided into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The Project Site is located in the City of Chino Hills in the Southwest San Bernardino Valley (Area 33). The nearest air monitoring station to the Project Site with available air quality data is the Upland Station located approximately 13 miles northeast of the Project Site; however, this location does not provide all ambient weather data. Therefore, additional data was pulled from the SCAQMD historical data for the Southwest San Bernardino Valley (Area 33) for both sulfur dioxide and carbon monoxide to provide the existing levels. **Table IV.A-2**, **Local Air Quality Levels from the Upland Monitoring Station** presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the Project Site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the Project Site.

The monitoring data presented in **Table IV.A-2** shows that ozone and particulate matter (PM_{10} and $PM_{2.5}$) are the air pollutants of primary concern in the Project area, which are detailed below.

Table IV.A-2
Local Air Quality Levels from the Upland Monitoring Station

Pollutant Standard[a]	Year		
	2018	2019	2020
Ozone (O_3)			
Maximum 1-hour concentration measured (ppm)	0.133	0.131	0.158
Days > CAAQS (0.09 ppm)	25	31	82
Maximum 8-Hour Concentration (ppm)	0.112	0.107	0.124
Days > NAAQS (0.07 ppm	52	52	116
Days > CAAQS (0.070 ppm)	54	54	118
Carbon Monoxide (CO)			
Maximum 1-hour concentration measured (ppm)	1.2	1.5	1.5
Days > NAAQS (20 ppm)	0	0	0
Maximum 8-Hour Concentration (ppm)	1.6	1.1	1.2
Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration measured (ppm)	0.059	0.058	0.055
Days > NAAQS (0.25 ppm)	0	0	0
SO_2			
Maximum 1-hour concentration measured (ppm)	*	*	*
Days > CAAQS (0.04 ppm)[3]	*	*	*
PM_{10}			
Maximum 24-hour concentration measured µg/m^3	156.6	125.9	174.8
Number of days exceeding national 150 µg/m^3 24-hour standard	1	0	1
Number of days exceeding State 50 µg/m^3 24-hour standard	*	*	*
Annual Arithmetic Mean (AAM)	33.4	29.0	33.5
Annual > NAAQS (50 ug/m3)	No	No	No
Annual > CAAQS (20 ug/m3)	Yes	Yes	Yes
$PM_{2.5}$			
Maximum 24-hour concentration measured µg/m3	47.9	91.1	74.0
Days > NAAQS (35 ug/m3)	*	*	*
Annual Average (ug/m3) 3	*	*	*
Annual > NAAQS (15 ug/m3) 3	*	*	*

Table IV.A-2
Local Air Quality Levels from the Upland Monitoring Station

Pollutant Standard[a]	Year		
	2018	2019	2020
Annual > CAAQS (12 ug/m3) 3	*	*	*

ppm = parts by volume per million of air
µg/m³=micrograms per cubic meter
** = data not available or not collected by the District*
Source: SCAQMD Historical Data by Year, website: https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year and /or
https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed December 2021.

Ozone (O_3). During the 2018 to 2020 monitoring period, the State 1-hour concentration standard for ozone has been exceeded between 31 and 82 days each year at the Upland Station. The State 8-hour concentration standard for ozone has been exceeded between 38 and 47 days each year over the past three years at the Upland Station. The Federal 8-hour concentration standard for ozone has been exceeded between 54 and 118 days each year over the past three years at the Upland Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide (CO). CO is another important pollutant that is due mainly to motor vehicles. The Southwest San Bernardino Valley Area did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

Nitrogen Dioxide (NO_2). The Upland Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Sulfur Dioxide (SO_2). The Southwest San Bernardino Valley area did not record an exceedance of the State SO_2 standards for the last three years.

Particulate Matter (PM). During the 2018 to 2020 monitoring period, the Upland Station did not record an exceedance of the State 24-hour concentration standard for PM_{10}. Over the same time period the Federal 24-hour standard for PM_{10} was exceeded one day each in 2018 and 2020 at the Upland Station.

During the 2018 to 2020 monitoring period, the Upland Station did not record an exceedance of the Federal 24-hour standard for $PM_{2.5}$.

According to the Environmental Protection Agency (EPA), some people are much more sensitive than others to breathing fine particles (PM_{10} and $PM_{2.5}$). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses.

Exercising athletes are also considered sensitive because many breathe through their mouths during exercise.

C. Attainment Status

The EPA and California Air Resources Board (CARB) designate air Basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. **Table IV.A-3, South Coast Air Basin Attainment Status** lists the attainment status for the criteria pollutants in the Basin.

Table IV.A-3
South Coast Air Basin Attainment Status

Pollutant	Standard[a]	Average Time	Designation[b]	Attainment Date[c]
1-Hour Ozone	NAAQS	1979 1-Hour 0.12 ppm	Nonattainment (Extreme)	2/6/2023 (not attained)[d]
	CAAQS	1-Hour 0.09 ppm	Nonattainment	N/A
8-Hour Ozone[e]	NAAQS	1997 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	NAAQS	2008 8-Hour 0.075 ppm)	Nonattainment (Extreme)	7/20/2032
	NAAQS	2015 8-Hour 0.070 ppm	Nonattainment (Extreme)	8/3/2038
	CAAQS	8-Hour 0.070 ppm	Nonattainment	Beyond 2032
CO	NAAQS	1-Hour (35 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	CAAQS	8-Hour (9 ppm)	Attainment	6/11/2007 (attained)
NO_2[f]	NAAQS	1-Hour (0.1 ppm)	Unclassifiable/Attainment	N/A (attained)
	NAAQS	Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)
	CAAQS	1-hour (0.18 ppm) Annual (0.030 ppm)	Attainment	-
SO_2[g]	NAAQS	1-Hour (75 ppb)	Designations Pending (expect Uncl./Attainment)	N/A (attained)
	NAAQS	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment	3/19/1979 (attained)
PM_{10}	NAAQS	1987 24-Hour (150 µg/m3	Attainment (Maintenance)[i]	7/26/2013 (attained)

Table IV.A-3
South Coast Air Basin Attainment Status

Pollutant	Standard[a]	Average Time	Designation[b]	Attainment Date[c]
	CAAQS	24-Hour (50 µg/m3) Annual (20 µg/m3)	Nonattainment	N/A
$PM_{2.5}$[j]	NAAQS	2006 24-Hour (35 µg/m3)	Nonattainment (Serious)	12/31/2019
	NAAQS	1997 Annual 15.0 µg/m3	Attainment	8/24/2016
	NAAQS	2021 Annual 12.0 µg/m3	Nonattainment (Serious)	12/31/2025
	CAAQS	Annual 12.0 µg/m3)	Nonattainment	N/A
Lead	NAAQS	3-Months Rolling (0.15 µg/m3)	Nonattainment (Partial)	12/31/2015

[a] *NAAQS = National Ambient Air Quality Standards, CAAQS = California Ambient Air Quality Standards*
[b] *U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.*
[c] *A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.*
[d] *1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements.*
[e] *1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the revoked 1997 O_3 standard is still subject to anti-backsliding requirements.*
[f] *New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.*
[g] *The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are still pending, with Basin expected to be designated Unclassifiable /Attainment.*
[h] *Annual PM_{10} standard was revoked, effective December 18, 2006; 24-hour PM_{10} NAAQS deadline was 12/31/2006; SCAQMD request for attainment redesignation and PM_{10} maintenance plan was approved by U.S. EPA on June 26, 2013, effective July 26, 2013.*
[i] *Attainment deadline for the 2006 24-Hour $PM_{2.5}$ NAAQS (designation effective December 14, 2009) is December 31, 2019 (end of the 10th calendar year after effective date of designations for Serious nonattainment areas). Annual $PM_{2.5}$ standard was revised on January 15, 2013, effective March 18, 2013, from 15 to 12 µg/m3. Designations effective April 15, 2015, so Serious area attainment deadline is December 31, 2025.*
[j] *Partial Nonattainment designation – Los Angeles County portion of Basin only for near-source monitors. Expect redesignation to attainment based on current monitoring data.*

Source:http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf.

D. Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For California

Environmental Quality Act (CEQA) purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc.).

The closest existing sensitive receptors (to the site area) are residential land uses located approximately 90 feet to the north, 300 feet to the east, and 400 feet to the south of the Project Site.

E. Regulatory Setting

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

i) Federal Regulations

1) Clean Air Act

The federal Clean Air Act (CAA) establishes national ambient air quality standards. Under the CAA, the U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants, known as the National Ambient Air Quality Standards (NAAQS).

The U.S. EPA designate areas, such as air Basins or counties, as meeting (attainment) or not meeting (nonattainment) these standards based on air quality monitoring data compared with adopted national standards. Where air quality data indicates pollutant concentrations for an area are below the standards for criteria pollutants, the area is classified an "attainment area." Likewise, where air quality data indicates pollutant concentrations for an area are above the standards for criteria pollutants, the area is classified a "nonattainment area," and can be further categorized as marginal, moderate, serious, severe, or extreme "nonattainment," depending on the magnitude of the air quality standard exceedance. A nonattainment area can reach attainment when NAAQS have been met for a period of 10 consecutive years. During this time period, the area is in transitional attainment, also termed "maintenance."

As part of its enforcement responsibilities under the CAA, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP is a plan for each state which identifies how that state will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS) set forth in section 109 of the CAA. These plans are developed through a public process, formally adopted by the state, and submitted by the Governor's designee to the U.S. EPA. The CAA requires the U.S. EPA to review each plan and any plan revisions and to approve the plan or plan revisions if consistent with the CAA.

The federal and state ambient air quality standards are summarized in **Table IV.A-4, Ambient Air Quality Standards.**

Table IV.A-4
Ambient Air Quality Standards

Pollutant	Averaging Period	Federal Standard[a,b]	California Standard[a,b]	South Coast Air Basin Attainment Status[c]	
				Federal Standard[d]	California Standard[d]
Ozone (O_3)	1-hour	—	0.09 ppm (180 µg/m^3)	—	Non-Attainment
	8-hour	0.070 ppm (137 µg/m^3)	0.07 ppm (137 µg/m^3)	Non-Attainment (Extreme)	Non-Attainment
Respirable Particulate Matter (PM_{10})	24-hour	150 µg/m^3	50 µg/m^3	Attainment	Non-Attainment
	Annual	—	20 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	24-hour	35 µg/m^3	—	Non-Attainment (Serious)	Non-Attainment
	Annual	12 µg/m^3	12 µg/m^3		
Carbon Monoxide (CO)	1-hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)	Attainment	Attainment
	8-hour	9 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)		
Nitrogen Dioxide (NO_2)	1-hour	0.10 ppm (188 µg/m^3)	0.18 ppm (339 µg/m^3)	Unclassified/ Attainment	Attainment
	Annual	0.053 ppm (100 µg/m^3)	0.030 ppm (57 µg/m^3)		
Sulfur Dioxide (SO_2)	1-hour	0.075 ppm (196 µg/m^3)	0.25 ppm (655 µg/m^3)	Unclassified/ Attainment	Attainment
	3-hour	0.5 ppm (1,300 µg/m^3)	—		
	24-hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)		
	Annual	0.03 ppm (80 µg/m^3)	—		
Lead (Pb)	30-day average	—	1.5 µg/m^3	Partial Non-Attainment[e]	Attainment
	Rolling 3-month average	0.15 µg/m^3	—		

Table IV.A-4
Ambient Air Quality Standards

Pollutant	Averaging Period	Federal Standard[a,b]	California Standard[a,b]	South Coast Air Basin Attainment Status[c]	
				Federal Standard[d]	California Standard[d]
Sulfates	24-hour	—	25 µg/m^3	—	Attainment
Hydrogen Sulfide (H_2S)	1-hour	—	0.03 ppm (42 µg/m^3)	—	Unclassified

ppm = parts per million by volume
µg/m^3 = micrograms per cubic meter

[a] *An ambient air quality standard is a concentration level expressed in either ppm or µg/m^{3}and averaged over a specific time period (e.g., 1 hour). The different averaging times and concentrations are meant to protect against different exposure effects. Some ambient air quality standards are expressed as a concentration that is not to be exceeded. Others are expressed as a concentration that is not to be equaled or exceeded.*

[b] *Ambient Air Quality Standards based on the 2016 AQMP.*

[c] *"Attainment" means that the regulatory agency has determined based on established criteria, that the Air Basin meets the identified standard. "Non-attainment" means that the regulatory agency has determined that the Air Basin does not meet the standard. "Unclassified" means there is insufficient data to designate an area, or designations have yet to be made.*

[d] *California and Federal standard attainment status based on SCAQMD's 2016 AQMP and 2018 updates from CARB. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.*

[e] *An attainment re-designation request is pending.*

Sources: United States Environmental Protection Agency, NAAQS Table, https://www.epa.gov/criteria-air-pollutants/naaqs-table. December 20, 2021
CARB, Ambient Air Quality Standards May 4, 2016, https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed December 20, 2021.

ii) State Regulations

1) California Clean Air Act

The California Clean Air Act (CCAA) requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The California Air Resources Board (CARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CAAQS includes more stringent standards than the NAAQS.

The U.S. EPA and the CARB use different standards for determining whether the Basin is in attainment. Federal and state standards are summarized in **Table IV.A-4, Ambient Air Quality Standards and Attainment Status** for the South Coast Air Basin. The attainment status for the Basin with regard to the NAAQS and CAAQS is also shown in **Table IV.A-4**. The CCAA designates air Basins as either in attainment

or nonattainment for each state air quality standard. The South Coast Air Basin) is designated as a state nonattainment area for O_3, PM_{10} and $PM_{2.5}$. In addition, the South Coast Air Basin is designated as a federal nonattainment area for O_3 and $PM_{2.5}$. The Basin is in attainment or designated as unclassified for all other criteria pollutants under national and state standards.

2) California Air Resources Board On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter (DPM) and other Toxic Air Contaminants (TACs) (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB also approved the Truck and Bus regulation to reduce PM and NO_X emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, there are two methods to comply with the requirements. The first way is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_X and PM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters (DPFs) achieving at least 85 percent removal efficiency, so that by January 1, 2016 their entire fleet is equipped with DPFs. However, DPFs do not lower NO_X emissions. Thus, fleet owners choosing the second option must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with large fleets beginning compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

3) California Air Resources Board Air Quality Land Use Handbook

CARB published the Air Quality and Land Use Handbook in 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or

local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines, and (4) avoid siting sensitive receptors within 300 feet of a large gasoline dispensing facility (3.6 million gallons per year or more) or 50 feet of a typical gasoline dispensing facility (less than 3.6 million gallons per year).[1]

In April 2017, CARB published a Technical Advisory supplement to the Air Quality and Land Use Handbook recognizing that infill developments as promoted by the State can place sensitive individuals in close proximity to high-volume roadways. The Technical Advisory provides planners and other stakeholders involved in land use planning and decision-making with information on scientifically based strategies to reduce exposure to traffic emissions near high volume roadways. The strategies include those that reduce traffic emissions, such as vehicle speed reduction mechanisms, including roundabouts, traffic signal management, and speed limit reductions on high-speed roadways. Strategies also include those that increase the dispersion of traffic emissions, such as implementing designs that promote air flow and pollutant dispersion along street corridors (e.g., wider sidewalks, bicycle lanes, streets characterized by buildings of varying heights), solid barriers such as sound walls, and vegetation for pollutant dispersion. Other strategies include those that remove pollution from the air such as indoor high efficiency filtration. This Technical Advisory is not intended as guidance for any specific project, nor does it create any presumption regarding the feasibility of mitigation measures for purposes of compliance with CEQA.[2]

iii) Regional Regulations

1) South Coast Air Quality Management District

The agency for air pollution control for the South Coast Air Basin (Basin) is SCAQMD. SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the Basin. SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the Basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air Basin where one or more ambient air quality standards are exceeded.

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric

[1] *CARB 2005, California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, https://www.arb.ca.gov/ch/handbook.pdf. Accessed December 2021.*

[2] *CARB 2017b, California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective Technical Advisory, https://www.arb.ca.gov/ch/landuse.htm. Accessed December 2021.*

chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO_x) emissions sufficiently to meet the upcoming ozone standard deadlines. The primary goal of the 2016 AQMP is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the plan has been approved by CARB, it has been forwarded to the U.S. Environmental Protection Agency for its review. If approved by EPA, the plan becomes federally enforceable.

Every three (3) years the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon.

On March 23, 2017, CARB approved the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO_x) emissions sufficiently to meet the upcoming ozone standard deadlines. The primary goal of the 2016 AQMP is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the plan has been approved by CARB, it has been forwarded to the U.S. Environmental Protection Agency for its review. If approved by EPA, the plan becomes federally enforceable.

South Coast AQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To support the development of mobile source strategies for the 2022 AQMP, South Coast AQMD, in conjunction with California Air Resources Board, has established Mobile Source Working Groups which are open to all interested parties.

a) South Coast Air Quality Management District Rules

The AQMP for the Basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal standards. Some of the rules and regulations that apply to this Project include, but are not limited to, the following:

SCAQMD Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable suppression techniques are indicated below and include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas in active for 10 days or more).
- Water active sites at least three times daily.
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) section 23114.
- Pave construction access roads at least 100 feet onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets.

SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the volatile organic compounds (VOC) content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of Project must comply with Rule 1113.

Idling Diesel Vehicle Trucks – Idling for more than 5 minutes in any one location is prohibited within California borders.

Rule 2702. The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified greenhouse gas (GHG) emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants

within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

Iv) Local Regulations

1) City of Chino Hills General Plan

The City's General Plan includes various policies related to reducing greenhouse gas emissions. The applicable policies to the Project are listed below.

Policy CN-6.3: Reduce air pollution emissions from construction activities.

- **Action CN-6.3.1:** Require preparation of air quality analyses of construction-related air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to the California Environmental Quality Act (CEQA). If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.
- **Action CN-6.3.2:** Encourage large construction projects to mitigate diesel exhaust emissions through the use of alternative fuels and control devices.
- **Action CN-6.3:3:** Require dust abatement actions for all new construction and redevelopment projects.

Policy CN-6.4: Reduce air pollution emissions from new development.

- **Action CN-6.4.1:** Require preparation of air quality analyses that analyze operational air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to the California Environmental Quality Act (CEQA). If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Threshold of Significance

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Pursuant to the State CEQA Guidelines (Section 15064.7), a lead agency may consider using, when available, the significance criteria established by the applicable air quality management district or air pollution control district when making determinations of significance. As the agency principally responsible for comprehensive air pollution control in the Basin, the SCAQMD recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA *Air Quality Handbook* and other guidance documents.

In February 2018 CEQA Guidance document released by SCAQMD, the SCAQMD further states that:

> *"Air districts' thresholds provide a clear quantitative benchmark to determine the significance of project and project alternative air quality impacts. They also help identify the magnitude of the impacts, facilitate the identification of feasible mitigation measures, and evaluate the level of impacts before and after mitigation measures. Since one of the basic purposes of CEQA is to inform government decision makers and the public about the potential, significant environmental effects of any proposed activities (CEQA Guidelines § 15002(a)(1)), use of air district thresholds is a best practice for CEQA impact determinations."*

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. There are daily emission thresholds for construction and operation of a proposed Project in the Basin. Project compliance with these thresholds is analyzed in Appendix C, Section 4.

I) Regional Significance Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions are established for the Basin:

- 75 pounds per day (lbs/day) of VOC
- 100 lbs/day of NO_x
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_2

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under SCAQMD guidelines.

II) Regional Significance Thresholds for Operational Emissions

The daily operational emissions significance thresholds for the Basin are as follows:

- 55 pounds per day (lbs/day) of VOC
- 55 lbs/day of NO_x
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_2

Local Microscale Concentration Standards The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

III) Thresholds for Localized Significance

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the Project vicinity. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are NO_2, CO, PM_{10}, and $PM_{2.5}$.

The emission thresholds were calculated based on the Southwestern San Bernardino Valley source receptor area (SRA 33) and a disturbance of 2 acres per day (to be conservative) at a distance of 50 meters (164 feet), for construction.

B. Methodology

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the Project. Construction activities would generate air pollutant emissions at the Project Site and on roadways resulting from construction-related traffic, use of construction equipment, and grading/earthwork activities. In addition, air pollutant emissions associated with the Project would result from Project operations and from Project-related traffic volumes. The net increase in air pollutant emissions generated by these activities and other secondary sources have been quantitatively estimated

in accordance with SCAQMD recommended methodologies and compared to the thresholds of significance.

i) Construction

Construction activities within the Project area will consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, net export of approximately 59,075 cubic yards of soil, import of approximately 41,410 cubic yards of soil, building, paving, and architectural coating. **Table IV.A-5, Land Use Summary** summarizes the land use description for the Project Site.

Table IV.A-5
Land Use Summary

Land Use	Unit Amount	Size Metric
Single Family Housing[a]	50	Units
Other Asphalt Surfaces[b]	8.80	Acre
Other Non-Asphalt Surfaces	10.00	Acre

[a] *Units cover 8.8 acres.*
[b] *Street paving approx. 25% of total 35.2 acres of housing.*
Source: MD Acoustics, 12/1/2021.

Typical emission rates from construction activities were obtained from CalEEMod Version 2020.4.0 CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of San Bernardino County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed Project as indicated in **Table IV.A-5**. Per the Project owner, construction is anticipated to begin in February 2023 and finish in July 2025. The CalEEMod model for the Project is based on construction beginning in May 2022 from an earlier timeline estimate. This is a more conservative estimate as CalEEMod estimates more efficient energy usage and therefore lower emissions over time. The phases of the construction activities which have been analyzed below are: 1) demolition, 2) site preparation, 3) grading, 4) building, 5) paving, and 6) architectural coating. For details on construction modeling and construction equipment for each phase, please see Appendix A of the Air Quality and Greenhouse Gas Impact Study.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area

(approximately 85.2 acres) and the fact that the Project won't export more than 5,000 cubic yards of material a day a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 is required. Compliance is shown in the CalEEMod model as application of water three times daily, which is included in the model as a mitigation measure.

ii) Operation

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

a) Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed Project. The vehicle trips associated with the proposed Project are based upon the trip generation rates give in the Project-specific trip generation analysis (Linscott, Law & Greenspan, Engineers) which uses the Highway Capacity Manual 6th Edition (HCM 6). The trip generation analysis shows a net trip generation rate of 481 trips per day for the proposed Project.

The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A and B of the Air Quality and Greenhouse Gas Impact Study for details.

b) Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less for buildings and 100 grams

per liter or less for parking lot striping. No changes were made to the CalEEMod architectural coating default values.

Per AB 341, at least 75 percent of generated waste will be source reduced, recycled, or composted. This is shown in the CalEEMod model as a mitigation measure; however, it is required.

c) Energy Usage

2020.4.0 CalEEMod defaults were utilized.

iii) Localized Construction Analysis

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain in its project design features or its mitigation measures the following parameters:

1. The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2. The maximum number of acres disturbed on the peak day.
3. Any emission control devices added onto off-road equipment.
4. Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The construction equipment showing the equipment associated with the maximum area of disturbance is shown in **Table IV.A-6, Construction Equipment Assumptions**.

Table IV.A-6
Construction Equipment Assumptions

Activity	Equipment	Number	Acres 8 hr-day	Total Acres
Demolition	Excavators	3	0.5	1.5
	Rubber Tired Dozers	2	0.5	1.0
Total Per Phase				2.5
Site Preparation	Rubber Tired Dozers	3	0.5	1.5
	Tractors/Loaders/Backhoes	4	0.5	2.0
Total Per Phase				3.5
Grading	Excavators	2	0.5	1.0
	Graders	1	0.5	0.55
	Rubber Tired Dozers	1	0.5	0.5
	Scrapers	2	0.5	1.0
Total Per Phase				**4.0**

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2.

As shown in **Table IV.A-6**, the maximum number of acres disturbed in a day would be 4 acres during demolition and grading.

The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed Project could result in a significant impact to the local air quality. The emission thresholds were based on the Southwest San Bernardino Valley source receptor area (SRA 33) and a disturbance of 2 acres per day at a distance of 50 meters (164 feet).

iv) Localized Operational Analysis

For operational emissions, the screening tables for a disturbance area of 2 acres per day, to be conservative, and a distance of 50 meters were used to determine significance. The tables were compared to the Project's onsite operational emissions.

C. Project Impacts and Mitigation Measures

Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis:

Impact A-1: The development of residential uses is consistent with the current land use designation in the City of Chino Hills. Therefore, the Project would be consistent with the standards and policies set forth in AQMP and the impact would be less than significant.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed Project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency: Will the project increase the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

(1) Whether the Project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the Project will exceed the assumptions in the AQMP in 2016 or increments based on the year of Project buildout and phase.

Both of these criteria are evaluated in the following sections.

Air quality violations occur when facilities are out of compliance with applicable SCAQMD rule requirements, permit conditions or legal requirements, or with applicable state or federal air pollution regulations. The regional and localized air quality significance thresholds were designed as a screening tool to avoid the potential occurrence and exacerbation of air quality violations resulting from construction and operation of individual CEQA projects based on the designation of emissions sources warranting advanced permitting and regulation. The second indicator of AQMP consistency is assessed by determining potential effects of permanent facility operations on population, housing, and employment

assumptions that were used in the development of the AQMP and the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). If implementation of the Project would render the assumptions invalid by introducing growth within the SCAQMD jurisdiction that exceeds projections incorporated into the AQMP, a significant air quality impact may occur.

i) A. Criterion 1 - Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this Air Quality Analysis in Appendix C, Sections 6.1 and 6.2, neither short-term construction impacts, nor long-term operations will result in significant impacts based on the SCAQMD regional and local thresholds of significance. Therefore, the proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

ii) B. Criterion 2 - Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed Project are based on the same forecasts as the AQMP. The 2016-2040 Regional Transportation/Sustainable Communities Strategy, prepared by SCAG, 2016, includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this Project, the County of San Bernardino Land Use Plan defines the assumptions that are represented in the AQMP.

The Project Site is currently designated as Rural Residential on the City of Chino Hills General Plan Land Use Plan Map. The proposed Project is consistent with the County of San Bernardino current land use designation. Therefore, it is not anticipated that the Project would exceed the AQMP assumptions for the Project Site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed Project will not result in an inconsistency with the SCAQMD AQMP. Therefore, the Project would not exceed the assumptions utilized in preparing the AQMP and would not have the potential to impair implementation of the AQMP. As such, impacts with respect to regional plans and AQMP consistency would be less than significant.

Mitigation Measures:

None required.

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable national or state ambient air quality standard?

Impact Analysis:

Impact A-2: Mass emissions generated by Project construction activities would not exceed the thresholds of significance recommended by the SCAQMD. Therefore, construction of the proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standards. The impact of the proposed Project would be less than significant.

The EPA and CARB designate air Basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. **Table IV.A-3, South Coast Air Basin Attainment Status** lists the attainment status for the criteria pollutants in the Basin.

The SCAQMD published guidance addressing the evaluation of potential cumulative impacts for CEQA projects. The SCAQMD asserts that if construction or operation of a project would produce maximum daily emissions exceeding the applicable project-specific thresholds, those emissions would also be considered cumulatively significant. For this reason, the SCAQMD applies the same project-level thresholds to cumulative assessments. Conversely, if construction and operation of a project would not generate emissions of sufficient quantity to exceed any of the applicable mass daily thresholds, then that project and its associated emissions would be considered less than significant in the cumulative context.

i) Regional Construction Emissions

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Rule 402 and 403. Rule 402 and 403 (fugitive dust) are not considered mitigation measures as the Project by default is required to incorporate these rules during construction.

Construction of the Project has the potential to create air quality impacts through emissions generated using heavy-duty construction equipment and through vehicle trips associated with construction worker commutes and haul and delivery vehicles traveling to and from the Project Site. Fugitive dust emissions would primarily result from site preparation (e.g., demolition and grading) activities. It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures include, but are not limited to, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system or other control measures to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas.

Demolition activities are anticipated to start in February 2023, and construction completion and building occupancy is anticipated in July 2025**.** As shown in **Table IV.A-3,** the maximum number of acres disturbed in a day would be 4 acres during demolition and grading**.**

The construction emissions for the Project would not exceed the SCAQMD's daily emission thresholds at the regional level as demonstrated in **Table IV.A-7, Regional Significance – Construction Emissions**, and therefore would be considered less than significant.

Table IV.A-7
Regional Significance – Construction Emissions

Activity		Pollutant Emissions (pounds/day)					
		VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	On-Site[a]	2.64	25.72	20.59	0.04	1.25	1.16
	Off-Site[b]	0.06	0.06	0.62	0.00	0.17	0.05
	Subtotal	**2.70**	**25.78**	**21.22**	**0.04**	**1.42**	**1.20**
Site Preparation	On-Site[a]	3.17	33.08	19.70	0.04	9.28	5.42
	Off-Site[b]	0.08	0.05	0.74	0.00	0.20	0.05
	Subtotal	**3.25**	**33.13**	**20.44**	**0.04**	**9.48**	**5.48**
Grading	On-Site[a]	3.62	38.84	29.04	0.06	5.28	2.94
	Off-Site[b]	0.72	24.02	6.78	0.10	3.40	1.09
	Subtotal	**4.34**	**62.87**	**35.82**	**0.16**	**8.68**	**4.03**
Building Construction	On-Site[a]	1.71	15.62	16.26	0.03	0.81	0.76
	Off-Site[b]	1.78	7.46	17.16	0.06	5.04	1.42
	Subtotal	**3.48**	**23.07**	**33.53**	**0.09**	**5.85**	**2.18**
Paving	On-Site[a]	1.41	9.52	14.63	0.02	0.47	0.43
	Off-Site[b]	0.55	0.03	0.53	0.00	0.17	0.05
	Subtotal	**1.95**	**9.56**	**15.15**	**0.02**	**0.64**	**0.48**
Architectural Coating	On-Site[a]	14.56	1.22	1.81	0.00	0.06	0.06
	Off-Site[b]	0.26	0.16	2.53	00.01	0.81	0.22
	Subtotal	**14.82**	**1.38**	**4.34**	**0.01**	**0.87**	**0.28**
Total for overlapping phases[c]		**20.26**	**34.01**	**53.02**	**0.12**	**7.35**	**2.94**
SCAQMD Thresholds		**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?		**No**	**No**	**No**	**No**	**No**	**No**

[a] *On-site emissions from equipment operated on-site that is not operated on public roads.*
[b] *Off-site emissions from equipment operated on public roads.*
[c] *Construction, architectural coatings and paving phases may overlap.*
Source: CalEEMod Version 2020.4.0.

ii) Regional Operational Emissions

The operations-related criteria air quality impacts created by the proposed Project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2024, which is the anticipated opening year for the Project per the Traffic Study (Linscott, Law & Greenspan, Engineers). The summer and winter emissions created by the proposed Project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in **Table IV.A-8, Regional Significance-Unmitigated Operational Emissions.**

Table IV.A-8
Regional Significance-Unmitigated Operational Emissions

Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources[a]	2.50	0.75	4.43	0.01	0.08	0.08
Energy Usage[b]	0.04	0.36	0.15	0.00	0.03	0.03
Mobile Sources[c]	1.59	2.17	15.57	0.03	3.50	0.95
Total Emissions	**4.13**	**3.28**	**20.15**	**0.04**	**3.61**	**1.06**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

[a] *On-site emissions from equipment operated on-site that is not operated on public roads.*
[b] *Off-site emissions from equipment operated on public roads.*
[c] *Construction, architectural coatings and paving phases may overlap.*
Source: CalEEMod Version 2020.4.0.

Table IV.A-8 provides the Project's unmitigated operational emissions. **Table IV.A-8** shows that the Project does not exceed the SCAQMD daily emission threshold and regional operational emissions are considered to be less than significant.

iii) Localized Construction Emissions

The data provided in **Table IV.A-9, Localized Significance - Construction** shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed Project.

Table IV.A-9
Localized Significance - Construction

Phase	On-Site Pollutant Emissions (pounds/day)[a]			
	NO_x	CO	PM_{10}	$PM2_{.5}$
Demolition	25.78	21.22	1.42	1.20
Site Preparation	33.13	20.44	9.48	5.48
Grading	38.84	29.04	5.28	2.94
Building Construction	15.62	16.36	0.81	0.76
Paving	9.52	14.63	0.47	0.43
Architectural Coating	1.22	1.81	0.06	0.06
Total for overlapping phases	**26.36**	**32.80**	**1.34**	**1.25**
SCAQMD Thresholds for 50 meters (164 feet) or less[2]	**200**	**1,877**	**19**	**8**
Exceeds Thresholds?	**No**	**No**	**No**	**No**

[a] *The nearest sensitive receptor is located 27 meters north of the property line; therefore, assuming an additional 25 meters between the border and start of construction equipment, the 50-meter threshold has been used.*
Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two-acres, to be conservative, in Southwest San Bernardino Valley Source Receptor Area (SRA 33). Project will disturb a maximum of 4.0 acres per day.

iv) Localized Operational Emissions

Table IV.A-10, Localized Significance-Unmitigated Operational Emissions shows the calculated emissions for the proposed operational activities compared with appropriate LSTs. The LST analysis only includes

Table IV.A-10
Localized Significance-Unmitigated Operational Emissions

On-site Emission Source	Pollutant Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Area Sources[a]	0.75	4.43	0.08	0.08
Energy Usage[b]	0.36	0.15	0.03	0.03
Mobile Sources[c]	0.22	1.56	0.35	0.10
Total Emissions	**1.33**	**6.13**	**0.46**	**0.20**
SCAQMD Thresholds for 50 meters (164 feet)	**200**	**1,262**	**5**	**2**
Exceeds Thresholds?	**No**	**No**	**No**	**No**

[a] *On-site emissions from equipment operated on-site that is not operated on public roads.*
[b] *Off-site emissions from equipment operated on public roads.*
[c] *Construction, architectural coatings and paving phases may overlap.*
Source: CalEEMod Version 2020.4.0.

on-site sources; however, the CalEEMod software outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in **Table IV.A- 10** include all on-site Project-related stationary sources and 10% of the Project-related new mobile sources.[3] This percentage is an estimate of the amount of Project-related new vehicle traffic that will occur on-site. The data provided in **Table IV.A-10, Localized Significance - Unmitigated Operational Emissions** shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from operation of the proposed Project.

Mitigation Measures:

None required.

Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis:

Impact A-3: Localized emissions generated by Project construction activities would not expose receptors in the vicinity of the Project Site to substantial pollutant concentrations. The impact of the proposed Project would be less than significant.

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the

[3] *The Project Site is approximately 0.45 miles in length at its longest point; therefore the on-site mobile source emissions represent approximately 1/15th of the shortest CalEEMod default distance of 6.9 miles. Therefore, to be conservative, 1/10th the distance (dividing the mobile source emissions by 10) was used to represent the portion of the overall mobile source emissions that would occur on-site.*

elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc.).

The closest existing sensitive receptors (to the site area) are residential land uses located adjacent and to the north of the Project Site.

i) Localized Construction Emissions

The data provided in **Table IV.A-9, Localized Significance - Construction** shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed Project.

ii) Construction-Related Human Health Impacts

Regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during construction of the Project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of Project construction are not anticipated.

iii) Construction Related TAC Emissions

When considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within close proximity of land uses that emit Toxic Air Contaminants (TACs). CARB has published and adopted the *Air Quality and Land Use Handbook: A Community Health Perspective*, which provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). SCAQMD adopted similar recommendations in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. Together, CARB and SCAQMD guidelines recommend siting distances for both the development of sensitive land uses in proximity to TAC sources and the addition of new TAC sources in proximity to existing sensitive land uses.

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed Project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Construction of the Project would utilize a relatively small number of heavy-duty construction equipment on site. Thus, the proposed Project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk from heavy-duty construction equipment. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

iv) Localized Operational Emissions

Table IV.A-10, Localized Significance-Unmitigated Operational Emissions shows the calculated emissions for the proposed operational activities compared with appropriate LSTs. The LST analysis only includes on-site sources; however, the CalEEMod software outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in **Table IV.A-10** include all on-site Project-related stationary sources and 10% of the Project-related new mobile sources. This percentage is an estimate of the amount of Project-related new vehicle traffic that will occur on-site. The data provided in **Table IV.A-10, Localized Significance - Unmitigated Operational Emissions** shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from operation of the proposed Project.

v) Operations-Related Human Health Impacts

As stated previously, regarding health effects related to criteria pollutant emissions, the applicable significance thresholds are established for regional compliance with the state and federal ambient air quality standards, which are intended to protect public health from both acute and long-term health impacts, depending on the potential effects of the pollutant. Because regional and local emissions of criteria pollutants during operation of the Project would be below the applicable thresholds, it would not contribute to long-term health impacts related to nonattainment of the ambient air quality standards. Therefore, significant adverse acute health impacts as a result of Project operation are not anticipated.

vi) CO Hot Spot Emissions

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with Project CO levels to the State and Federal CO standards which were presented in above.

To determine if the proposed Project could cause emission levels in excess of the CO standards discussed above in Section 5.0, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general Project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse.

Micro-scale air quality emissions have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for CO. However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no "hot spots" anywhere in the air basin, even at intersections with much higher volumes, much worse congestion, and much higher background CO levels than anywhere in San Bernardino County. If the worst-case intersections in the air basin have no "hot spot" potential, any local impacts will be below thresholds.

The Project-specific trip generation analysis showed that the Project is only anticipated to generate 481 daily vehicle trips (Linscott, Law & Greenspan, Engineers). The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. The volume of traffic at Project buildout would be well below 100,000 vehicles and below the necessary volume to even get close to causing a violation of the CO standard. Therefore, no CO "hot spot" modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed Project.

Mitigation Measures:

None required.

Would the project result in other emissions (such as those leading to odors) affecting a substantial number of people?

Impact Analysis:

Impact A-4: Construction and operation of the proposed Project would not result in other emissions (such as those leading to odors) affecting a substantial number of people. The impact of the proposed project would be less than significant.

As discussed in **Section VII, Effects Found Not to be Significant** and the Initial Study (Appendix A of the Draft Focused EIR), odors are typically associated with the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes.

According to the SCAQMD CEQA Air Quality Handbook, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Project involves the construction and operation of a residential project, and residential uses are not typically associated with odor complaints.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the Project, which are objectionable to some; however, emissions would disperse rapidly from the Project Site and therefore should not reach an objectionable level at the nearest sensitive receptors. The nearest sensitive receptor is 90 feet away and construction will occur across approximately 35.2 acres. Additionally, localized construction emissions thresholds will not be exceeded by the project, as shown in **Table IV.A-9, Localized Significance - Construction**. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed Project.

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the Project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

Potential sources that may emit odors during the on-going operations of the proposed Project would include odor emissions from trash storage areas. Due to the distance of the nearest receptors from the Project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed Project.

Mitigation Measures:

None required.

4. CUMULATIVE IMPACTS

Cumulative projects include local development as well as general growth within the Project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the Project's air quality must be generic by nature.

The Project area is out of attainment for both ozone and PM_{10} particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact.[4] The Project does not exceed any of the thresholds of significance and therefore is considered less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project impacts related to air quality (i.e., regional and localized impacts per SCAQMD thresholds) would be less than significant without mitigation.

Cumulative impacts related to air quality would be less than significant.

[4] *SCAQMD. White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution. 2003. https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2.*

IV. ENVIRONMENTAL IMPACT ANALYSIS
B. BIOLOGICAL RESOURCES

1. INTRODUCTION

This section of the Focused EIR addresses the potential impacts of the Project on biological resources. Specifically, this section identifies sensitive biological resources that are known to occur or have the potential to occur on or near the Project Site, assesses the potential significant impacts to these biological resources from the Project, and recommends mitigation measures to avoid, minimize, or reduce the significance of any potential impacts. In addition, this section analyzes the Project's incremental contribution to cumulative biological resources impacts from past, present, and reasonably foreseeable future projects. This section is based on information provided in Appendix D.1 of this Draft Focused EIR, which includes *Paradise Ranch Project Biological Technical Report, Chino Hills, County of San Bernardino, California, prepared by Leatherman BioConsulting, Inc., October 2, 2022.*

This section is also based on the following documents:

- *Protected Tree Report for the 16220 Canyon Hills Road Project, (TTM 20286) City of Chino Hills, California, prepared by Dudek, October 2020 in Appendix D.2.*
- *Results of Focused Surveys for the Burrowing Owl for the Paradise Ranch Development Project, San Bernardino, County, California, prepared by Leatherman BioConsulting, Inc., August 4, 2022 in Appendix D.3.*
- *Results of Focused Surveys for the California Gnatcatcher on the Paradise Ranch Development Project, San Bernardino County (Permit No. TE 827493-9) prepared by Leatherman BioConsulting, Inc., August 5, 2022 in Appendix D.4.*
- *Due Diligence for the Approximately 85.2-Acre Property Located in the City of Chino Hills, San Bernardino County, California, prepared by Glenn Lukos Associates, December 14, 2018, in Appendix D.5.*
- *Jurisdictional Delineation of the Paradise Canyon Project an Approximately 85.2-Acre Site, Located in Chino Hills, San Bernardino County, California, prepared by Glenn Lukos Associates, August 24, 2021, in Appendix D.6.*
- *Response to Comment from the Santa Ana Regional Water Quality Control Board on the Initial Study and Notice of Preparation for a Draft Environmental Impact Report for the Paradise Ranch Project, SCH 2022040301, prepared by Glenn Lukos Associates, November 10, 2022 in Appendix D.7.*

2. ENVIRONMENTAL SETTING

A. Project Description

The Project Site, defined as the entire property, is located in the Carbon Canyon area of the City of Chino Hills, San Bernardino County, California. Specifically, it is located approximately 0.8 miles north of Carbon Canyon Road (SR 142) just northwest of the intersection of Canyon Hills Road and Summer Canyon Road, in an un-sectioned portion of Township 2 South, Range 9 West, of the Yorba Linda U.S. Geological Survey (USGS) 7.5-minute quadrangle map. Elevation on the Project Site ranges from approximately 959 feet above mean sea level (msl) to 1,256 feet msl.

The topography on the Project Site includes a series of undeveloped hillsides that slope to drainages along the north and east side of the site. Soils on the Project Site are composed of (1) Gaviota-Chumash-Rock outcrop complex, 20 to 55 percent slopes occurring over most of the Project Site, and (2) Chualar clay loam, nine to 15 percent slopes which occurs in the less steep areas on the east side of the Project Site adjacent to the drainage (USDA 2021).

The property where the Project is proposed includes approximately 85-acres and includes the following Assessor Parcel Numbers (APNs): 1000-051-09-0-0-00 and 1000-051-19-0-000. Adjacent land uses include low density residential communities to the north, east and south (similar to the proposed Project), and undeveloped land to the west.

B. Existing Land Uses

The Project Site is currently split into two lots, one located at 16200 Canyon Hills Road in the northeastern portion of the Project Site, and one located at 16220 in the western portion of the Project Site. The 10.71-acre lot located at 16200 Canyon Hills Road consists of an approximately 1,250 square foot residence, a barn, stables, and fenced pasture. The 71.9-acre lot located at 16220 Canyon Hills Road consists of an approximately 1,180 square foot home. The rest of the Project Site is undeveloped hillsides and slopes, and supports a variety of native and non-native vegetation. The Project Site currently supports cattle grazing throughout the non-native annual grasslands and under the coast live oak trees (*Quercus agrifolia*) that dominate most of the Project Site, and has resulted in habitat degradation and disturbance to most vegetation communities.

i) Habitat Types and Wildlife

1) Vegetation Alliances/Land Use Types

Four vegetation alliances and one land use type occur on the Project Site including coast live oak woodland and forest, California sagebrush scrub, wild oats and annual brome grasslands, disturbed California sagebrush scrub, and developed land (**Table IV.B-1, Vegetation Alliance/Land Use Types Acreage**). Descriptions of the vegetation alliances are provided below, and a vegetation map is included as Figure 3 in Appendix D.1.

Table IV.B-1
Vegetation Alliance/Land Use Types Acreage

Vegetation Alliance/Land Use Type	Acres Within Property Boundary
Coast Live Oak Woodland and Forest	34.54
California Sagebrush Scrub	11.13
Disturbed California Sagebrush Scrub	6.41
Wild Oats and Annual Brome Grasslands	27.32
Developed (Rural)	6.65
Total	**86.06**

Source: Leatherman BioConsulting, Inc. December 2021.

2) Coast Live Oak Woodland and Forest (*Quercus agrifolia* Forest & Woodland Alliance)

Coast live oak woodland and forest alliance is found in coastal and inland valleys, foothills, and canyon bottoms, slopes or flats. It is associated with deep sandy or loam soils with high organic matter. Geographically this alliance ranges from Baja California, Mexico through northern California (CNPS 2021). Coast live oak, in this alliance, is sometimes dominant or co-dominant in the upland tree canopy with big-leaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii*), Southern California black walnut, blue oak (*Quercus douglasii*), Engelmann oak (*Quercus engelmannii*), California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*) and California bay laurel (*Umbellularia californica*) (CNPS 2021). The trees are typically less than 100 feet tall in this alliance, and the canopy ranges from open to continuous. The shrub layer is sparse to intermittent and herbaceous layer is sparse or grassy (CNPS 2021).

The coast live oak woodland and forest alliance is distributed throughout the Project Site. The understory of the coast live oak woodland and forest has been grazed and exhibits low recruitment. Coast live oak is the dominate species with Southern California black walnut scattered throughout these areas on the Project Site (although not in the density necessary to classify it as a separate alliance). Other species present include: blue elderberry (*Sambucus nigra ssp. caerulea*), lemonade berry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*) and black mustard (*Brassica nigra*).

The coast live oak woodland and forest alliance along the northern and eastern boundary of the Project Site are associated with a drainage mapped on the USGS topographic maps as blue line streams. This alliance more closely aligns with a riparian forest in older vegetation classification systems prior to the alliance system (CNPS 2021), but is categorized as coast live oak woodland and forest alliance in the classification system used for this report. Other species present in this area include: Southern California black walnut, poison oak, and curly dock (*Rumex crispus*). A large arroyo willow (*Salix lasiolepis*) and a few mule fat (*Baccharis salicifolia*) occur along the Project Site boundary.

3) California Sagebrush Scrub (*Artemisia californica* Shrubland Alliance)

California sagebrush scrub alliance occurs throughout the central and southern California Coast ranges. This alliance typically occurs on soils that are alluvial or colluvial derived and shallow (Sawyer et al. 2009). Typically, California sagebrush (*Artemisia californica*) is dominant or co-dominant in the shrub canopy with chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), orange bush-monkeyflower (*Diplacus aurantiacus*), California encelia (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), Our Lord's candle (*Hesperoyucca whipplei*), coastal goldenbush (*Isocoma menziesii*), heart-

leaved bush-penstemon (*Keckiella cordifolia*), coastal deerweed (*Acmispon glaber*), coastal prickly pear (*Opuntia littoralis*), white sage (*Salvia apiana*), purple sage (*Salvia leucophylla*), black sage (Salvia mellifera), and poison oak (Sawyer et al. 2009). Taller shrubs of lemonade berry or blue elderberry may be present at low cover.

California sagebrush scrub alliance is present on the south facing slopes along the southern half of the Project Site. Scattered patches are also present in openings in the coast live oak woodland and forest throughout the Project Site. The scrub is not considered high quality because of the extensive grazing on the Project Site. It is dominated by California sagebrush, with some black sage and California buckwheat. Other species present in this alliance type on the Project Site include coastal goldenbush, saw-toothed goldenbush (*Hazardia squarrosa*), long-beaked filaree (*Erodium botrys*), and rigid fiddleneck (*Amsinckia menziesii*).

4) Disturbed California Sagebrush Scrub

Disturbed California sagebrush scrub on the Project Site is characterized by scattered shrubs and non-native grasses cleared regularly for fire control. This disturbed alliance occurs along the southwest boundary of the Project Site adjacent to the neighboring housing development. This alliance is dominated by California sagebrush and annual non-native grasses including ripgut brome and red brome. Other species present include deerweed, shortpod mustard (*Hirschfeldia incana*), and telegraph weed (*Heterotheca grandiflora*).

5) Wild Oats and Annual Brome Grasslands (*Avena spp.-Bromus spp*. Herbaceous Semi-Natural Alliance)

Wild oats and annual brome grasslands are non-native and can be found in coastal and inland areas from Mexico to Canada. This alliance type is typically characterized by slender wild oat (*Avena barbata*), wild oat (*Avena fatua*), purple false brome (*Brachypodium distachyon*), rattlesnake grass (*Briza maxima*), ripgut grass, soft chess (*Bromus hordeaceus*) and/or foxtail barley (*Hordeum murinum*). Emergent trees and shrubs also may be present at low cover (CNPS 2021). It may be found in all topographic settings including foothills, waste places, rangelands, and openings in woodlands (CNPS 2021).

The wild oats and annual brome grassland alliance occurs on the hillsides throughout the Project Site and as an understory to the coast live oak woodland and forest. Most of this alliance on the Project Site has been heavily grazed. The dominant species include ripgut brome and red brome. Other species present include wild oat *(Avena spp.*), foothill needle grass (*Stipa lepida*), shortpod mustard, and doveweed (*Croton setiger*). Grassland habitats along the existing access road at the east end of the Project Site are dominated by short-pod mustard.

6) Developed Area

Developed sites include rural and urban areas, roads, parks, and graded sites. Developed areas on the Project Site include two residences, livestock pens, other ranch buildings, parking areas and roads. The developed areas generally occur in the center of the Project Site and in the northeast corner of the Project Site. These areas contain minimal vegetation or weedy plant species or non-native ornamentals planted for aesthetic or erosion control purposes. Representative species include blue gum, fruit trees (Prunus sp.), mission cactus (*Opuntia ficus-indica*) and fan palm (*Washingtonia spp*.).

7) Wildlife

The Chino Hills provide habitat for a variety of native wildlife, many of which are likely to occur on or pass through the Project Site at least periodically. The Project Site is composed primarily of coast live oak woodland and forest, coastal sage scrub, and non-native grassland habitats that are suitable for wildlife species that occur in similar rural areas in the Project vicinity. Common wildlife species observed or expected to occur on the Project Site are discussed below.

8) Fish

Two drainages within the boundary of the Project Site are mapped as ephemeral streams on the Yorba Linda USGS 7.5 minute quadrangle map and a third drainage was identified by GLA (2021) during a jurisdictional delineation. One drainage was identified as perennial by GLA (2021). However, all three drainages were dry during the general biological survey on July 22, 2021 and during surveys to assess the presence and quality of aquatic habitat during surveys on May 15 and July 1, 2022 (see Appendix D.1 of this Focused EIR), and do not appear support perennial water over the course of a year. Most drainages in Chino Hills are ephemeral, in that they are subject to periods of high water flow in winter and spring, and little to no flow in late summer and fall. Although, nuisance run-off from the residential developments to the north and east of the Project Site may prolong the amount of time surface water is present in both drainages surveys indicate that surface water does not persist in the drainages on the Project site for most of the year. These drainages therefore do not provide aquatic habitat that could support native freshwater fish species on the Project Site and native freshwater fish species are not expected.

9) Amphibians

Amphibians require moisture for at least a portion of their life cycle and many require standing or flowing water for reproduction. The warm, dry conditions during the surveys were not conducive to finding amphibians, and no standing or flowing water where amphibians might be found was observed. However, several common amphibian species are expected to occur within the coast live oak woodland and forest and associated drainage including the garden slender salamander (*Batrachoseps major*), western toad (*Anaxyrus boreas*), and Pacific treefrog (*Pseudacris regilla*).

10) Reptiles

Reptilian diversity and abundance typically varies with vegetation and character. While many species are associated with a particular habitat type, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows for cover and protection from predators and extreme weather conditions.

Several species of reptiles including the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis catenifer*) western rattlesnake (*Crotalus viridis*), and red-diamond rattlesnake (*Crotalus ruber*) were observed during the surveys of the Project Site. Additional reptile species are expected to occur on the Project Site because they are common throughout southern California in similar habitat. These include western skink (*Plestiodon skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), and common kingsnake (*Lampropeltis getula*).

11) Birds

Habitat on the Project Site provides suitable foraging and nesting habitat for many bird species. Some birds may be year-around residents, whereas others only nest here during the summer months (migrating south for winter), or spend the winter here (migrating north to nest in the summer). A total of 53 species were observed on or foraging over the Project Site and others are likely to occur at least seasonally as they migrate through southern California or stay for the winter (see Appendix D.1). Common species observed during the survey include the mourning dove (*Zenaida macraura*), Anna's hummingbird (Calypte anna), black phoebe (*Sayornis nigricans*), western scrub jay (*Aphelocoma californica*), California towhee (*Pipilo crissalis*), and house finch (*Carpodacus mexicanus*). Many other passerines that are common in southern California in similar habitat are expected to nest and forage on the Project Site over the course of the year.

12) Mammals

Small mammals may meet their food, water, and cover needs within a small territory, whereas larger species generally roam over relatively large areas to meet these needs, increasing their chances of detection in a general survey. Therefore, only those mammal species that are active during daylight hours or whose tracks and scat are conspicuous and readily identifiable were identified during the surveys of the Project Site.

Several mammals were observed or detected on the Project Site. The desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Otospermophilus beecheyi*) were observed, and the tracks of a coyote (*Canis latrans*) and burrows of the valley pocket gopher (*Thomomys bottae*) were identified. Additional common mammal species expected to occur in the Project Site include Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), common raccoon (*Procyon lotor*), striped skunk (Mephitis mephitis), and mule deer (*Odocoileus hemionus*).

13) Wildlife Movement and Nursery Sites

The effects of habitat fragmentation and importance of corridors were reviewed by Harris and Gallagher (1989) and Soule (1991), among many others. In many regions, land development and linear structures (e.g., roadways) have converted once-contiguous habitat into scattered patches separated by barriers, so that individual animals and entire populations are now isolated in remnant habitat fragments or islands. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they inhibit the exchange of individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Movement corridors and linkages mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, providing routes for wildlife to escape from fire, predators, and human disturbances (thus reducing the risk that catastrophic events will result in local extinction), and serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

In general, animals relevant to the discussion of movement corridors are typically larger, more mobile species, such as mule deer, black bear (*Ursus americanus*), mountain lion (*Puma concolor*), and coyote (*Canis latrans*). Most of these species have relatively large home ranges through which they move to find

adequate food, water, and breeding and wintering habitat. It is assumed that corridors that serve larger, more mobile species also serve as corridors for many smaller, less mobile species, such as reptiles, amphibians, and rodents (generally discussed in the context of local movement). For smaller species, these incremental local movements to nearby habitats can be considered "stepping stones" as individuals move between populations, thus facilitating gene flow on the regional scale.

The Puente-Chino Hills Wildlife Corridor is a conceptual amalgamation of open space elements under the ownership of several different private and public entities that extend from the Cleveland National Forest at the east end to Whittier Narrows and the San Gabriel River at the west end of the Puente Hills. Although the habitat is already fragmented by major highways, rural roads, and various developments that represent barriers to movement, an underpass beneath State Route (SR) 91 provides connectivity between the Santa Ana Mountains and Chino Hills at Coal Canyon and an underpass beneath SR 57 provides connectivity between the Chino Hills and Puente Hills at Tonner Canyon. Other roads and areas subject to human development and disturbance represent near barriers or filters that allow movement of some but not all wildlife depending on mobility and tolerance to human activity.

Mountain lions are a good focal species for evaluating wildlife corridor function and habitat connectivity because they require large blocks of habitat, depend on functional corridors in areas with fragmented habitat, and are susceptible to roadkill (Conservation Biology Institute CBI 2005). A theoretical analysis of the Chino-Puente Hills Wildlife Corridor suggests that the entire Chino Hills and Tonner Canyon segments of the system could only support a subpopulation of one to three lions but would not be sustainable without the core population in the Santa Ana Mountains (CBI 2005).

Although the Puente-Chino Hills Wildlife Corridor system is too small to support a population of mountain lions by itself, lions accessed and lived within the hills as an extension of the larger Santa Ana Mountains populations at least in the 1990's (Beier 1993, Noss et al. 1997). Lions also had been detected to the western end of the corridor in Whittier Hills as recently as the early 2000's (CBI 2005). More recently, there are few reliable sightings of mountain lions in the Chino Hills or in habitat to the west. However, a young male was found dead (on April 3, 2022) on SR 60 in Diamond Bar and a collared lion known as M317 recently crossed SR 91, moved along the Santa Ana River Canyon, and returned to the Santa Ana Mountains (never really entering Chino Hills for any distance). The Project Site is located north of the conceptual outline of the Puente-Chino Hills Wildlife Corridor as depicted in existing maps.

The Project Site is located on the edge of an urban-wildland interface. Existing development adjacent to the Project Site includes housing tracts and associated roads along the northern, southern and eastern boundaries, and Carbon Canyon Road is located immediately to the east. As such, unrestricted access to habitat on the Project Site is only from the west. Approximately 76 acres (or 78 percent) of the 85-acre Project site would remain in natural open space, and the development would be located along the northern and eastern boundaries adjacent to existing developments, so most of the habitat would not be developed or isolated from the existing habitat to the west, and wildlife can continue their local movements. In addition, the drainage and woodland habitat along the northern and eastern boundaries and a prominent ridgeline across the Project Site (from west to east) are not within the development footprint. These areas therefore would continue to allow local wildlife movement within and across the Project Site.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as spawning areas used by certain fishes and amphibians, heron rookeries, wetlands that support habitat for blackbird colonies, cliff swallow colonies on bridges, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species. No habitats or sites that support nursery sites were

observed on the Project Site during the July 22, 2021 general biological survey (see Appendix D.1) or during the focused surveys (Burrowing Owl between May 16 and July 19, 2022 (see Appendix D.3) and California Gnatcatcher between May 16 and July 19, 2022 (see Appendix D.4)).

14) Special Status Biological Resources

This section addresses special status biological resources observed, reported or having the potential to occur in the Project Site. These resources include habitat/vegetation types, plants and wildlife species that have been afforded special status and/or recognition by federal and state resource agencies, and species recognized by private conservation organizations.

15) Special Status Habitats/Vegetation Types

A review of the CNDDB identified the following ten special status habitats as occurring within the vicinity of the Project: Southern California arroyo chub/Santa Ana sucker stream, California walnut woodland, Riversidian alluvial fan sage scrub, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern interior cypress forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, and walnut forest. One of the ten special status habitats occurs on the Project Site including southern coast live oak riparian forest. This habitat was identified and mapped as the coast live oak woodland and forest alliance on the Project Site.

16) Special Status Plant Species

A total of 21 special status plant species have been reported within the vicinity of the Project Site. These species and their potential to occur within the Project Site are listed in Table 2 in Appendix D.1 the Draft Focused EIR. The species in the table are listed alphabetically according to their scientific name and include species reported in the CNDDB and CNPS databases. One special status plant, Southern California black walnut (*Juglands Californica*), was observed on the Project Site. No other special status plant species were observed.

17) Special Status Wildlife

A total of 49 special status wildlife species have been reported in the Project region. These species and their potential to occur within the Project Site are listed in Table 3 in Appendix D.1 to the Draft Focused EIR. The species in the table are arranged in taxonomic groups and listed alphabetically according to their scientific name. The list includes species reported in the CNDDB database and other species that may occur based on our experience. Two special status wildlife were observed during surveys including the red-diamond rattlesnake (*Crotalus ruber*) and Cooper's hawk (*Accipiter cooperi*). No other special status wildlife species were observed incidentally during the general biological survey or focused surveys for the burrowing owl and California gnatcatcher.

18) Critical Habitat and Conservation Areas

The Project Site is not located within Critical Habitat designated by the USFWS, a Habitat Conservation Plan (HCP) area, or an established Natural Community Conservation Plan (NCCP).

ii) Jurisdictional Waters and Wetlands

This section summarizes the results of the jurisdictional delineation conducted by GLA (2021) as discussed in Appendix D.6. There are three unnamed drainages located within the boundaries of the Project Site, including two unnamed drainages depicted as blue line drainages on the Yorba Linda USGS 7.5-minute quadrangle map. Drainage A originates offsite to the northeast and extends along the eastern boundary of the Project Site. Drainage A is perennial and supports southern willow riparian scrub as well as oak-walnut riparian woodland. Drainage B also originates offsite to the northwest and extends along the northern boundary of the Project Site. Drainage B is ephemeral and supports coast live oak riparian woodland. Drainage C originates within the Project Site and extends south towards the southwest boundary of the Project Site. Drainage C is ephemeral and supports oak riparian woodland, non-native grass understory, and scrub habitat. Drainages A and B exhibited a bed and bank with a clear flow path indicating an ordinary high-water mark (OHWM), and eventually drain to the Santa Ana River, ultimately discharging to the Pacific Ocean. Drainage C exhibited a defined bed and bank but not an OHWM. No wetland waters were observed within the Project Site.

1) USACE Jurisdiction

Pursuant to the Navigable Waters Protection Rule (NWPR), Drainage A is subject to the Section 404 of the CWA because it satisfies the flow requirement and would be categorized as an (a)(2) jurisdictional feature as described in 33 U.S.C. 1251 et seq. USACE jurisdiction along Drainage A totals approximately 0.07 acre, all of which consist of non-wetland waters of the United States (U.S). A total of 778 linear feet of perennial stream is present. Drainages B and C are not subject to Corps jurisdiction pursuant to Section 404 of the CWA.

2) RWQCB Jurisdiction

Drainage A is subject to Corps jurisdiction under Section 404 of the CWA, and therefore is also subject to RWQCB jurisdiction under Section 401 of the CWA. Because Drainages B and C are not subject to Corps jurisdiction pursuant to Section 404 of the CWA, these features are not subject to Regional Board jurisdiction pursuant to Section 401 of the CWA. However, because they convey surface flow with the potential to support beneficial uses, they are considered to be waters of the State that would be regulated by the RWQCB pursuant to Section 13260 of the CWC/the Porter-Cologne Act. RWQCB jurisdiction at the Project site totals approximately 0.20 acre (0.07, 0.03 and 0.10 acre in Drainages A, B and C respectively), all of which consist of non-wetland waters of the State. A total of 2,791 linear feet of perennial and ephemeral stream is present (778, 1,560 and 453 linear feet in Drainages A, B and C respectively).

3) CDFW Jurisdiction

CDFW jurisdiction at the Project site includes Drainages A, B, and C. Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, because Drainages A-C convey surface water, contain riparian vegetation, and exhibit a defined bed and bank, all three are subject to CDFW jurisdiction. CDFW jurisdiction at the Project Site totals approximately 3.30 acres (1.44, 1.65 and 0.21 acre in Drainages A, B and C respectively), all of which consist of riparian stream. A total of 2,791 linear feet of stream is present (778, 1,560 and 453 linear feet in Drainages A, B and C respectively).

iii) City of Chino Hills Tree Preservation Ordinance

There are 1,287 native trees (including one heritage tree) that meet the City's definition of protected tree located within and adjacent to the limits of the Project Site (Dudek 2020). The four native tree species present include California black walnut, western sycamore, coast live oak, and scrub oak. The scrub oak on the site is currently recognized as *Quercus berberdifolia*. *Quercus dumosa*, which is the species identified in the City's tree ordinance, only occurs the immediate coast in southern California. **Table IV.B-2, Summary of Tree Species** provides a summary of the species mapped within and adjacent to the Project Site.

In total, 1,079 of the trees are single-stemmed and 208 are multi-trunked. Tree diameters for single-stemmed trees varied and ranged from 4 inches to 42 inches; cumulative trunk diameters for multi-trunked trees ranged from 4 inches to 45.6 inches. The Project Site contains one heritage tree that has a cumulative diameter of 45.65 inches. Tree heights ranged from 10 to 65 feet and crown widths ranged from 10 to 85 feet at their widest points.

Table IV.B-2
Summary of Tree Species

Tree Species	Number of Trees on Project Site	Percentage of Trees on Project Site
Juglans californica California black walnut	60	4.7%
Platanus racemose western sycamore	2	0.2%
Quercus agrifolia coast live oak	1,221	94.9%
Quercus berberdifolia scrub oak	4	0.3%
Total	**1,287**	**100%**
Source: Leatherman BioConsulting, Inc. December 2021.		

C. Regulatory Setting

i) Federal Regulations

1) The Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS). Section 9 of the FESA prohibits the "take" of endangered wildlife, which is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). In this definition, "harm" includes "any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs the essential behavioral patterns of fish and wildlife." For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species

(including plants) or its critical habitat. Through the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of FESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds and any of their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (see Section 2.2.2).

3) Federal Clean Water Act

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into Waters of the United States, including wetlands, without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency acts as a cooperating agency to set policy, guidance and criteria for use in evaluation permit applications and also reviews USACE permit applications.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Quality Control Board, administered by each of nine California Regional Water Quality Control Boards (RWQCB).

ii) State Regulations

1) California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of FESA but, unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under Section 2081, CESA allows for take incidental to otherwise lawful projects if it will not jeopardize the continued existence of the species. State lead agencies are required to consult with

California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2) California Fish and Game Code

The CDFW administers the California Fish and Game Code. Several sections of the code are applicable to natural resource protection and management.

a) Lake and Streambed Alteration Agreement

Under Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. Section 1602 requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

b) Migratory Birds

The CDFW enforces the protection of nongame native birds in Sections 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3503 makes it unlawful to take, posses, or destroy any bird's nest or any bird's eggs. Birds of prey (hawks, eagles, and owls) and their nests and eggs are protected under section 3503.5. Section 3513 prohibits the possession or take of migratory birds listed under the MBTA.

c) Fully Protected Species

The State of California first began to designate species as "Fully Protected" prior to the creation of the CESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or state ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

d) Native Plant Protection Act

The Native Plant Protection Act (NPPA)(California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take, and the NPPA requires all state agencies to use their authority to carry out programs to conserve endangered and rare plants. The CESA provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

3) California Environmental Quality Act

CEQA (Public Resources Code Sections 21000 et seq.) is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. The CEQA Guidelines (14 California Code of Regulations [CCR] Chapter 3) are the regulations that explain and interpret the law for both public agencies and private development required to administer CEQA.

CEQA provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts to biological resources. Pursuant to Section 15380, CEQA provides protection for species that could potentially meet the criteria for listing, even if they are not currently listed. For plants, CDFW recognizes that plants of CRPR 1A, 1B, or 2 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA.

iii) Local Regulations

1) City of Chino Hills Tree Preservation Ordinance

The City's Municipal Code (Chapter 16.90, Tree Preservation) makes it unlawful for any person, firm, partnership, corporation or other legal entity to destroy or remove any non-exempt protected trees within the City without a tree permit. When a tree permit is required, no grading or building permits shall be issued until the tree permit is issued, nor shall work of any kind commence that would result in the destruction, damage, or removal of any non-exempt protected tree prior to the issuance of the tree permit. When part of a proposed development, the Tree Removal Permit shall be submitted concurrent with the development permit application (Chino Hills 2020).

The Tree Preservation ordinance protects "native trees" that are four inches or greater in diameter at standard height (DBH) and are located on undeveloped property or developed property within the Fire Hazard Overlay (Chino Hills 2021). Protected tree species include the California black walnut (*Juglans californica*), coast live oak (*Quercus agrifolia*), Western sycamore (*Platanus racemosa*), and Nuttall's scrub oak/coastal scrub oak (*Quercus dumosa*).

The City also protects "heritage trees", which are defined as "any species that is single or multi-trunk tree having a cumulative diameter of 44 inches or greater DBH, located on undeveloped property, and of significant age, health and quality to be deemed valuable to the aesthetics of the community by a certified arborist" (Chino Hills 2020, Chino Hills 2021). Excluded from the "heritage tree" designation are invasive trees as defined by the California Invasive Plant Council, and trees susceptible to breaking or falling, such as blue gum (Eucalyptus globulus) and/or other tree species identified by a City approved certified arborist.

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. CEQA Mandatory Findings of Significance

Under CEQA Guidelines (Section15065) a lead agency must conclude that a project would have a significant effect on the environment if:

The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range or an endangered, rare, or threatened species.

B. Threshold of Significance

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by CDFW or USFWS;
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
f) Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

C. Methodology

i) Literature Review

Prior to conducting a biological reconnaissance survey, Leatherman BioConsulting, Inc. (LBC) conducted a literature search to identify and compile a list of special status plants, wildlife and vegetation alliances known to occur in the vicinity of the Project Site. Literature included the CDFW California Natural Diversity Database (CNDDB) (CDFW 2021) and the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021 and 2022). The database searches included the Yorba Linda USGS 7.5 minute quadrangle map and the eight surrounding quadrangles, including San Dimas, Ontario, Prado Dam, Black Star Canyon, Orange, Anaheim, La Habra, and Baldwin Hills. Listing packages in the Federal Register and

lists of special status species published by the USFWS and CDFW were also reviewed. Numerous additional references and resources were used to compile information on the current distribution, habitat requirements, and life histories for particular species and groups.

ii) General Biological Survey

A general biological survey was conducted on July 22, 2021 by Principal Botanist Sandra Leatherman and Staff Biologist Gregory Stratton. The purpose of the survey was to map vegetation, describe the vegetation alliances and wildlife habitats that occur on the Project Site, develop a list of the common plants and wildlife that occur there, and assess the potential of the habitats to support special status plants and wildlife known from the region to evaluate potential impacts. The Project Site and surrounding property were also evaluated to assess its potential to facilitate wildlife movement through the area.

During the biological survey, the entire Project Site was walked using meandering transects. The survey was sufficient to provide an assessment of vegetation and habitat on the Project Site and to document species that are common, but was not appropriate for detection of the majority of annual plant species that are likely present, or for the majority of wildlife that are only active or present in the region during certain times of the year.

All plants and wildlife observed or detected indirectly during the general biological survey were documented in field notes with representative photographs (see Appendix D.1, *Paradise Ranch Project Biological Report* (Appendices A, B and C)). Plant taxonomy and nomenclature follow The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012) or the online updates on the Jepson eFlora (Jepson Flora Project 2021). Vegetation was mapped in the field by Ms. Leatherman on an aerial photograph at a 200 scale (1”=200”). Vegetation alliances were classified according to the descriptions in the online edition of A Manual of California Vegetation (CNPS 2021).

In addition to the general biological survey, the drainages on the Project site were surveyed on May 16 and July 1, 2022. The purpose of the surveys was to determine if surface water was present and to assess the quality of any aquatic habitat that was found in terms of its potential to support special status species reliant on that habitat.

Wildlife species were detected by direct observation or the presence of diagnostic sign. Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by direct observation or diagnostic vocalizations (calls or songs) or feathers. Mammals were documented based on direct observation or by identifying diagnostic sign, including remains, scat, footprints, burrows, and tracks. Taxonomy and nomenclature for vertebrate wildlife referred to in this report generally follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2016).

iii) Focused Biological Surveys

In 2022, LBC conducted focused surveys for special status plants, burrowing owl (*Athene cunicularia*), and California gnatcatcher (*Polioptila californica*).

iv) Plant Surveys

The database and literature search described in Section 3.1 identified a number of special status plants that may potentially occur on the Project site, and habitats were assessed during the general biological

survey on July 22, 2021 to evaluate suitability to support special status plant resources. Based on the evaluation, it was determined that the Project site contains potentially suitable habitat special status plant species, and focused surveys were conducted by Ms. Leatherman. The main focus of the surveys were intermediate mariposa lily (*Calochortus weedii var. intermedius*) and many-stemmed dudleya (*Dudleya multicaulis*), both CRPR 1B.2 species. These species were observed in full bloom by Ms. Leatherman on May 13, 2022 and June 8, 2022 in Weir and Gypsum Canyons prior to the surveys. Floristic surveys at the Project site were conducted on May 23, 2022 and June 8, 2022. All plants species observed were recorded in field notes and are included in Appendix A of the Biological Technical Report.

v) Burrowing Owl Surveys

Non-native grassland habitat on the Project site supports moderately suitable habitat and the presence of California ground squirrel (*Spermophilus beecheyi*) provides suitable burrows for the burrowing owl. Therefore, focused burrowing owl surveys were conducted (LBC 2022a) in all suitable habitat following the survey guidelines described in the California Department of Fish and Game (now CDFW) Staff Report on Burrowing Owl Mitigation (CDFW 2012). Four breeding season surveys for burrowing owls and their burrows were conducted at least three weeks apart between May 16 and July 19, 2022 between dawn and 11:30 a.m. Surveys were conducted by Principal Biologist Brian Leatherman with assistance from Project Biologist Adam DeLuna during the final survey.

The focused surveys consisted of walking parallel belt transects across the site in the flat areas and parallel meandering transects in suitable grassland habitats on the hillsides. Transect widths were spaced and maintained at approximately 15 meters (49 feet) apart (the maximum allowed under the survey guidelines is 30 meters, or 100 feet), which was close enough to allow 100 percent visual coverage of the ground surface. The focus of the survey was on the detection of burrowing owls and their diagnostic sign, and any natural or artificial (man-made) burrows suitable for use by the burrowing owl were investigated as the surveys were conducted. Throughout the survey, the Project site and the surrounding areas up to 500 feet were periodically surveyed for burrowing owls by scanning suitable habitat, potential burrow locations, possible perch locations, and other habitat features that may be used by burrowing owls.

vi) California Gnatcatcher Surveys

Coastal sage scrub habitat on the Project site supports potentially suitable habitat for the federally listed threatened California gnatcatcher. Focused surveys for the California gnatcatcher were conducted (LBC 2022b) following the current protocol developed by the USFWS (1997). All surveys were conducted by Michael C. Couffer (under USFWS permit # TE 782703-10) between May 16 and June 20, 2022 following the guidelines outlined for breeding season surveys, which require that six rounds of surveys be conducted at least one week apart between March 15 and June 30. Surveys were generally conducted between 0500 and 1200 hours under suitable weather conditions.

Surveys were conducted by walking within and along the perimeter of coastal sage scrub habitat while watching and listening for California gnatcatcher activity. Recorded gnatcatcher vocalizations were used periodically in an attempt to elicit a response from any gnatcatchers that might be present. The frequency and duration of tape playback varied with site conditions including habitat patch size and vegetation height, site topography, and ambient noise levels.

vii) Jurisdictional Delineation

A review of the Project Site to identify potential areas of USACE and/or CDFW jurisdiction was conducted by Glenn Lukos Associates, Inc. (GLA 2018) and a jurisdictional delineation was completed in 2021 (GLA 2021). Regulatory specialists with GLA visited the Project Site on May 25, 2021 to determine the presence and limits of USACE jurisdiction (pursuant to Section 404 of the CWA) RWQCB jurisdiction (pursuant to Section 401 of the CWA and Section 13260 of the Porter Cologne Water Quality Act), and CDFW (pursuant to Section 1600 of the California Fish and Game Code). Potential jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils, and hydrology. A Trimble GPS with sub-meter accuracy was used to record potential limits of jurisdiction. A copy of the GLA (2021) delineation report is included in Appendix D.5.

viii) Tree Survey

A tree survey was conducted on the Project Site by Dudek (2020). The resulting Protected Tree Report is incorporated by reference and summarized as appropriate in this document. The location of each protected native tree was mapped using GPS technology in the field, and each tree was tagged with an aluminum tree tag with a unique number for identification. During the tree survey, tree attribute data including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, and general health and structural conditions were collected for each tree. The tree location data from the GPS were compiled in a Geographic Information System (GIS) to determine the position of individual trees relative to the Project's development footprint and evaluate total tree impacts.

D. Project Impacts and Mitigation Measures

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by CDFW or USFWS?

Impact Analysis:

Impact B-1: The proposed Project would directly impact four vegetation alliances and developed areas. The loss of the vegetation described above would result in the loss of habitat that provides nesting, foraging, and denning opportunities for a variety of wildlife. The proposed Project would permanently impact approximately 18 acres of undeveloped habitat. It would also result in the direct loss of amphibians, reptiles, small mammals and other wildlife with low mobility within the impact area. With the implementation of Mitigation Measure MM BIO-1 potential impacts on the loss of habitat and Mitigation Measure MM BIO-2 nesting birds would be reduced to a level of less than significant.

i) Direct Impacts

Direct impacts are considered to be those that involve the loss, modification or disturbance of vegetation alliances, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations, thereby reducing genetic diversity and population stability.

1) Vegetation Alliance Impacts/Land Use Types

The proposed Project would directly impact four vegetation alliances and areas that were previously developed. The total impact acreage is shown on **Table IV.B-3, Vegetation Alliance/Land Use Types Impact Areas** and the impacted area is illustrated on **Figure IV.B-1, Impact Area**. Vegetation resources on the Project Site include coast live oak woodland and forest, California sagebrush scrub, disturbed California sagebrush scrub, wild oats and annual brome grasslands. The land use type is developed.

Table IV.B-3
Vegetation Alliance/Land Use Types Impact Areas

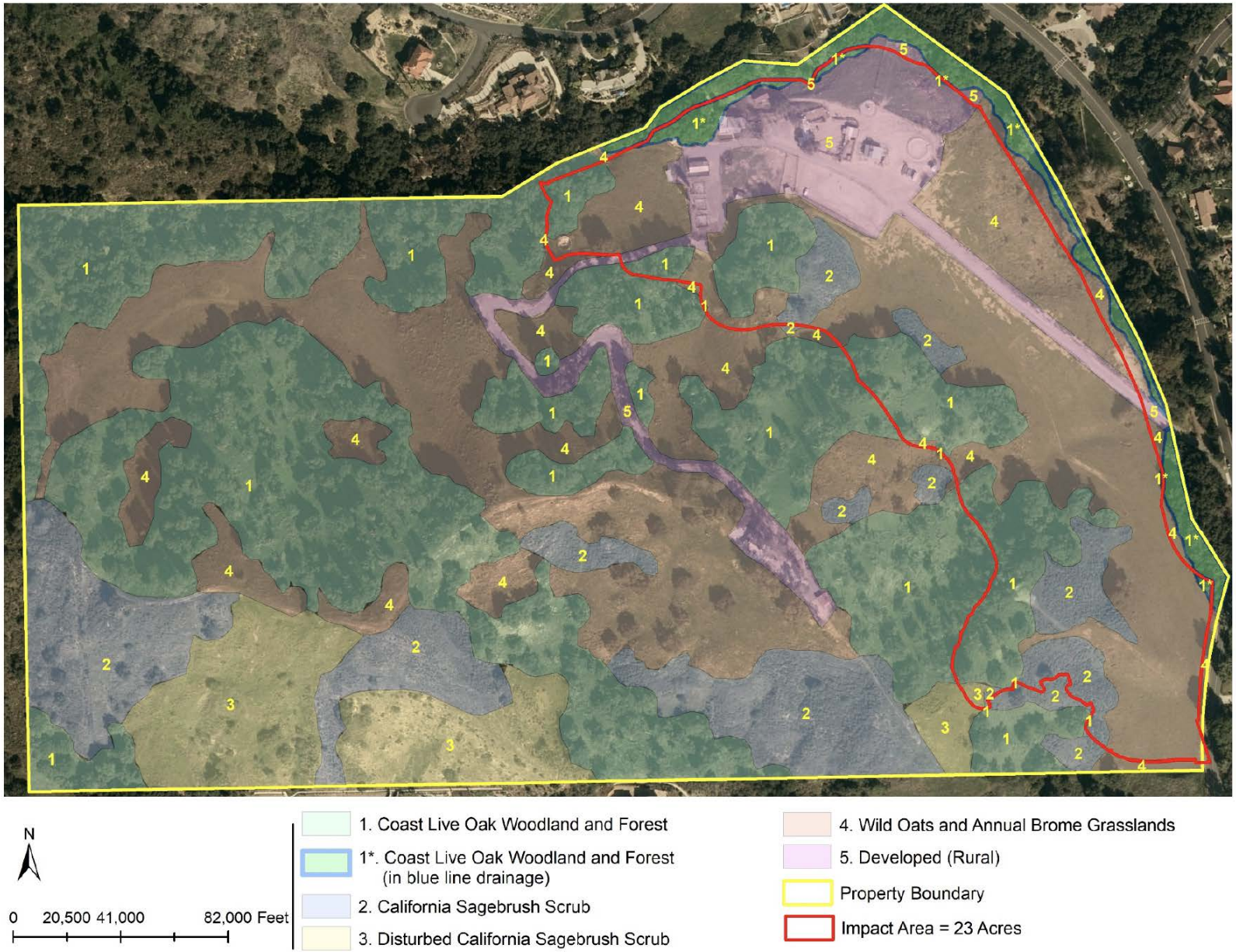
Vegetation Alliance/Land Use Types	Acres Within Property Boundary	Acres Within Impact Area	Preserved
Coast Live Oak Woodland and Forest	34.54	5.09	29.45
California Sagebrush Scrub	11.13	2.15	8.98
Disturbed California Sagebrush Scrub	6.41	0.06	6.35
Wild Oats and Annual Brome Grasslands	27.32	10.92	16.40
Developed	6.65	0.44	6.21
Total	**86.06**	**18.66**	**67.40**
Source: Leatherman BioConsulting, Inc. December 2021.			

a) Coast Live Oak Woodland and Forest

Approximately 5.09 acres of coast live oak woodland and forest alliance will be impacted by Project implementation. This acreage includes the coast live oak woodland and forest throughout the Project footprint and along the blue line drainage by the northeastern boundary of the Project Site that was identified on the USGS topographical map. Impacts on coast live oak forest and woodland will be mitigated, in part, by retaining 29.45 acres of the same vegetation alliance as open space on the Project Site. In addition, impacts on individual coast live oak trees and Southern California black walnut trees would be mitigated through implementation of Mitigation Measure BIO-1 by their replacement at ratios prescribed in the City's tree ordinance. Therefore, impacts on the coast live oak woodland and forest vegetation alliance would be adverse, but are considered less than significant because 1) the habitat is prevalent in the area, 2) nearly six times the amount of habitat to be removed will remain as open space, and 3) loss of individual trees is being mitigated.

b) California Sagebrush Scrub and Disturbed California Sagebrush Scrub

Approximately 2.21 acres of California sagebrush scrub and disturbed California sagebrush scrub (of the 17.54 acres on the property) will be impacted by Project implementation. This scrub habitat is not considered high quality because of extensive grazing and disturbance associated with fuel modification for fire control. Focused surveys in this habitat for the federally listed threatened California gnatcatcher were negative. Impacts to this habitat therefore would be considered less than significant because of the small area to be impacted, the amount of habitat that will remain in open space, the disturbed nature of the habitat, and the absence California gnatcatcher.



Source: Leatherman BioConsulting, Inc., 2021

EcoTierra consulting

Figure IV.B-1
Impact Area

c) Wild Oats and Annual Brome Grasslands

Approximately 10.92 acres of wild oats and annual brome grasslands will be impacted by Project implementation. This habitat is highly disturbed by cattle grazing and dominated by invasive species, and therefore provides little biological value. Therefore, impacts on these non-native grasslands are considered less than significant and no mitigation would be required.

d) Developed

Approximately 0.44 acre of developed areas will be impacted by Project implementation. Disturbed areas provide little to no biological value. Therefore, direct and indirect impacts to disturbed areas are not considered significant, and no mitigation would be required.

2) Wildlife

a) General Habitat and Wildlife Loss

The loss of the vegetation described above would result in the loss of habitat that provides nesting, foraging, and denning opportunities for a variety of wildlife. The proposed Project would permanently impact approximately 18 acres of undeveloped habitat. It would also result in the direct loss of amphibians, reptiles, small mammals and other wildlife with low mobility within the impact area. More mobile species would be forced to move into remaining areas of open space where they would have to compete with resident individuals for available resources. This would result in the indirect loss of the individuals that don't successfully compete. The loss of native and non-native habitat on the Project Site would not be expected to reduce populations of common wildlife species below self-sustaining levels in the Project region. Therefore, this impact would be considered adverse but less than significant, and no mitigation would be required.

b) Raptor and Bat Foraging Habitat

Project development would result in the loss of 10.92 acres of foraging habitat for raptors, including (potentially) the red-tailed hawk, red-shouldered hawk, Cooper's hawk, sharp-shinned hawk, Swainson's hawk, white-tailed kite, American peregrine falcon, golden eagle, long-eared owl, and western screech owl, and would contribute to the ongoing regional and local loss of foraging habitat. However, 16.4 acres of raptor foraging habitat on the property would remain as open space. Although impacts on foraging habitat would be considered adverse, they would not be expected to appreciably affect the overall population of these species given the amount of suitable foraging habitat to remain on the Project Site and in the surrounding region, including nearly all of Chino Hills State Park immediately east of the Project Site. Therefore, impacts on foraging habitat for these species would be considered adverse but less than significant and no mitigation would be required.

Project development would also result in the loss of approximately 18 acres of foraging habitat for bats that potentially forage over the Project Site, including (potentially) the pallid bat, Mexican long-tongued bat, western mastiff bat, western red bat, western yellow bat, pocketed free-tailed bat, and big free-tailed bat. More common bats may forage in the area as well. None of the special status bats that potentially occur are currently listed as endangered or threatened, or are candidates for listing under the state or federal ESAs. The loss of foraging habitat would contribute to the ongoing regional and local loss of foraging habitat; however, approximately 67 acres of foraging habitat on the property would remain as

open space. Although impacts on foraging habitat would be considered adverse, they would not be expected to appreciably affect the overall population of these species given the amount of suitable foraging habitat to remain on the Project Site and in the surrounding region, including nearly all of Chino Hills State Park immediately east of the Project Site. Therefore, impacts on foraging habitat for these species would be considered adverse but less than significant and no mitigation would be required.

c) Nesting Birds

The Project has the potential to impact active bird nests if vegetation is removed during the nesting season. Several common bird species are likely to nest in the vegetation or on the ground within the impact area. The loss of an active migratory bird nest, including nests of common species, would be considered a violation of the MBTA and Sections 3503, 3503.5, and 3513 of California Fish and Game Code. The MBTA and California Fish and Game Code prohibit the taking of migratory birds, nests, and eggs. Impacts therefore would be considered significant without mitigation. Mitigation Measure **MM BIO-2** is included to reduce potential impacts to less than significant.

d) Wildlife Movement and Nursery Sites

The Project Site is located in Carbon Canyon just west of Carbon Canyon Road, and is bordered by housing developments to the north, south, and east. Ample opportunity for wildlife to move on a regional scale from large blocks of undeveloped land located to the west and east of

Carbon Canyon Road and the Project Site occurs over a two-mile stretch of Carbon Canyon Road between Canyon Hills Road and Olinda Drive to the south. In addition, the Project Site is located north of the conceptual boundary of the Chino-Puente Hills Wildlife Corridor as depicted in existing maps. Therefore, no impacts to regional wildlife movement or the Puente-Chino Hills Wildlife Corridor as it is currently presented or as it ideally would be constructed in the future are expected to occur because of the Project, and no mitigation would be required.

On a local scale, the current Project design would result in permanent impacts to approximately 18 of the 86-acre property, so most of the property would not be developed, and wildlife can continue their local movements. The drainages along the northern and eastern boundary of the Project Site and the ridge through the south half of the Project Site would not be developed as part of the Project, and, although reduced in width compared to the existing condition, wildlife that are expected to occur in this rural environment would still be able to use these landscape features to pass through the site and access larger blocks of habitat. Therefore, impacts to local wildlife movement are not expected to occur, and no mitigation would be required.

No nursery sites were observed on the Project Site and no mitigation would be required.

ii) Indirect Impacts

Indirect impacts are those related to disturbance by construction (such as noise, dust, and urban pollutants), long-term use of the Project Site, and the Project's operational effect on adjacent habitat areas (such as night lighting, human activity, and domestic pets). The indirect impact discussion below includes a general assessment of the potential indirect impacts of the construction and operation of the proposed Project.

Noise levels will likely increase during the construction of the proposed Project and because of the presence of additional residents. Noise impacts from construction would be temporary, but noise impacts from additional residents would be permanent. These increases in noise levels are not expected to be substantially higher than the existing noise levels. Potential impacts from temporary noise increases during construction could disrupt foraging, nesting, roosting, and/or denning activities for a variety of wildlife occurring adjacent to the Project Site. However, the increase in noise would be expected to occur primarily during the daytime or early evening, so nighttime noise levels would be expected to remain the same. Wildlife movement for mammals occurs primarily at night; thus, movement of these species would be minimally interrupted. The increase in ambient noise is not expected to be substantially higher or affect nocturnal wildlife; therefore impacts are considered adverse but less than significant, and no mitigation would be required.

Night lighting may impact the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to night lighting. Of greatest concern is the effect on small, ground dwelling animals that use the darkness to hide from predators and/or owls, which are specialized night foragers. The proposed Project will likely result in an increase in the amount of light cast on the adjacent open space to the west. However, night lighting is already used by existing adjacent residents on the property and to the north and south, and the increase in night lighting is not expected to be substantially higher the existing light levels. Therefore, this impact is less than significant and no mitigation is required.

The Project Site is currently occupied to two residential properties and is located adjacent to existing rural developments to the north and south; thus, human activity currently exists on and adjacent to the Project Site. The proposed Project is anticipated to increase the human activity on the Project Site during construction and when the residential community is occupied. However, the 67 acres of open space to remain on the Project Site is not expected to be open to the public. Although the Project may result in (unauthorized) access into adjacent habitat areas, it is not expected to result in substantially higher use. Potential impacts therefore are considered less than significant, and no mitigation is required.

Mitigation Measures:

MM BIO-1: **City of Chino Hills Tree Preservation Ordinance:** The City's Municipal Code requires the preservation of certain protected and heritage trees. Impacts on protected trees would be considered significant without mitigation. A tree survey was prepared for the Project Site and mitigation to offset impacts on trees are detailed in the Protected Tree Report prepared by Dudek (2020). In addition to Dudek's report, a Final Tree Mitigation Plan shall be submitted and approved by the City Planning Department prior to issuance of the grading permit. The Project applicant shall follow all requirements outlined in the City's ordinance and shall submit a mitigation planting plan consistent with the Protected Tree Report to the City prior to issuance of the grading plan. Mitigation for the loss of trees is at ratios specified in the Protected Tree Report, and are summarized in **Table IV.B-4, Tree Replacement Requirements**. The mitigation ratios range from 1:1 to 6:1 depending on the DBH of the impacted trees.

Table IV.B-4
Tree Replacement Requirements

	Replacement Size			
Tree Species	**24-Inch Box**	**36-Inch Box**	**48-Inch Box**	**Total**
Juglans californica California black walnut	25	23	6	54
Platanus racemosa western sycamore	0	4	0	4
Quercus agrifolia coast live oak	33	225	178	436
Quercus berberdifolia scrub oak	0	0	0	0
Total	**58**	**252**	**184**	**494***

*Dudek Table 4, an addition error shows and incorrect total of 452 replacement trees.
Source: Leatherman BioConsulting, Inc. December 2021.

The mitigation planting plan/landscape design plan shall include: 1) responsibilities and qualifications, 2) site selection, 3) schedule, 4) maintenance plan, 5) monitoring plan, 6) long term preservation, and 7) remedial measures. All tree plantings be subject to a 5-year monitoring effort by an independent third-party certified arborist. This monitoring effort would consider growth, health, and condition of the subject trees to evaluate the Project's success. The monitoring effort may result in a recommendation of remedial actions should any of the tree plantings exhibit poor or declining health.

MM BIO-2: **Nesting Birds:** To ensure compliance with the MTBA and the California Fish and Game Code, to the extent feasible, there shall be no vegetation cutting, removal, clearing, and/or grading allowed during the breeding season of migratory birds or raptors (February 1 – August 15).

If work is to be conducted within the nesting season, then a nesting bird survey shall be conducted by a qualified biologist within three days prior to disturbance. If nesting birds are not detected, no further action is necessary. If an active nest is detected and the qualified biologist determines that work activities may impact nesting, an appropriate buffer zone shall be established around the nest. The size of the buffer may vary depending on site features, the sensitivity of the species, and the type of construction activity, but shall be designed to prevent disruption of nesting activity. Only limited construction activities (if any) shall be approved by the biologist to take place within the buffer zone. The nests and associated buffer zones shall be avoided until the nesting cycle is complete or it is determined by the qualified biologist that the nest has failed.

*Would the project h*ave *a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?*

Impact Analysis:

Impact B-2: **The Project would not have a substantial adverse effect on any special status plant or wildlife species and, with the implementation of MM BIO-2, the potential adverse impacts on nesting birds and riparian habitat would be reduced to a level that is less than significant.**

i) Special Status Biological Resource Impacts

1) Special Status Plant Species Impacts

One special status plant species, Southern California black walnut, is known to occur on the Project Site. Eleven additional special status plant species have potential to occur on the Project Site: Catalina mariposa lily (*Calochortus catalinae*), Plummer's mariposa lily (*Calochortus plummerae*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), small-flowered morning-glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), many-stemmed dudleya (*Dudleya multicaulis*), Palmer's grapplinghook (*Harpagonella palmeri*), Robinson's peppergrass (*Lepidium virginicum var. robinsonii*), Fish's milkwort *(Polygala cornuta var. fishiae*), Engelmann oak (*Quercus engelmannii*) and Coulter's matilija poppy (*Romneya coulteri*) .

The CNPS rank for the Southern California black walnut is relatively low (CRPR4.2) and impacts normally would be considered adverse but not significant. However, the Southern California black walnut is protected under the City's tree ordinance, so mitigation to offset impacts are discussed below.

None of the other eleven species with potential to occur on the Project Site are listed by USFWS or CDFW as threatened, endangered or a candidate for listing. However, two of the species are ranked high enough to be considered under CEQA. These are the intermediate mariposa lily (CRPR 1B.2) and many-stemmed dudleya (CRPR 1B). These two species were not observed during focused surveys conducted during their blooming period.

The remaining eight special status plant species are CRPR 4: The surveys occurred within the blooming period and/or the plants were perennials and easily detectable for six of the species. These included Plummer's mariposa lily, paniculate tarplant, Robinson's peppergrass, Fish's milkwort, Coulter's matilija poppy, and Engelmann oak. These plants were not observed.

Catalina mariposa lily, small-flowered morning-glory, and Palmer's grapplinghook, the other three CRPR 4 species continue to have a limited potential to occur on the Project Site. If present it would be in small numbers. CRPR 4 species are defined as plants of limited distribution (a watch list). Impacts on plants of this ranking may be adverse but are considered less than significant and no mitigation would be required.

2) Special Status Wildlife Impacts

A total of 49 special status wildlife, including two invertebrates, two amphibians, nine reptiles, 24 birds, and 12 mammals, were identified during the literature search as potentially occurring in the Project region (see Appendix D.1, Table 3). Many of the species (25) are not expected on the Project Site based on one or a combination of factors, including the highly disturbed nature of the site, lack of suitable habitat, and/or being out of geographic or elevational range. In addition, several (9) bird species are not expected to nest but may pass through during migration, winter in the Project Site, or forage in the area on occasion.

Two special status wildlife were observed during surveys including the red-diamond rattlesnake and Cooper's hawk. Concern for the Cooper's hawk is related to potential impacts to active nests. Nine special status wildlife species have a low potential to occur, two have a moderate potential to occur, and two have a high potential to occur on the Project Site. The removal of 18 acres of habitat would result in the direct loss of these special status wildlife, if any actually occur, or displace more mobile species, forcing them to move to adjacent open space where they would have to compete for resources. In general, the limited number of vegetation alliances and habitat types, the dominance of non-native annual grasslands,

and the disturbed condition of the existing habitats due to cattle grazing reduce, habitat suitability and the potential for special status wildlife to occur (especially in substantial numbers). In addition, similar habitat in the region and the 67 acres of the Project Site that would remain as open space provide similar habitat for their persistence on the Project Site.

None of the wildlife discussed above are listed, proposed for listing, or a candidate for listing as threatened or endangered, and adverse impacts to these species (if they were to occur) would be unlikely to substantially affect regional populations or cause any trend toward listing them under state or federal ESAs. Therefore, impacts on these species may be adverse but are considered less than significant and no mitigation would be required.

The burrowing owl, a CDFW Species of Special Concern, occurs in grasslands, lowland scrub, agricultural lands, desert floors, and scrublands characterized by low growing vegetation. They require large open expanses of sparsely vegetated habitat on gently rolling or level terrain with an abundance of active small mammal burrows. Burrows are an essential component of burrowing owl habitat because they provide protection, shelter, and nest sites. Burrowing owls typically use modified burrows made by fossorial mammals, especially those of ground squirrels and other rodents, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

No burrowing owls or diagnostic signs of their presence (e.g., burrows, cast pellets, feathers, or whitewash clustered at a burrow) were detected on the Project Site during the general biological survey or during focused surveys conducted in 2022 (LBC 2022a), and the burrowing owl is not expected to occur on the Project Site now or in the near future, so additional surveys are not warranted prior to construction. Therefore, there would be no impacts to the burrowing owl and no mitigation would be required.

3) Impacts to Listed Wildlife Species with Potential to Occur

The monarch butterfly (*Danaus plexippus*) is a federal Candidate species. It roosts primarily in gum trees (*Eucalyptus spp*.) in protected canyons along the southern California coast and can occur throughout the state during migration. Monarchs may fly over the site during migration and nectar on wildflowers in the spring and fall. However, monarchs are not known to winter in the Project area and large concentrations on the Project Site are not expected. Monarch butterflies migrating through the Project Site would not be reliant on resources on the Project Site that are not available elsewhere. Therefore, impacts to the monarch butterfly are not expected.

The golden eagle, white-tailed kite, and American peregrine falcon are Fully Protected species by the state, and the Swainson's hawk is state listed as threatened. All of these may forage over the Project Site, at least occasionally, over the course of a year. Impacts to foraging habitat for raptors are considered to be less than significant. Only the white-tailed kite has potential to nest on the Project Site, and impacts to an active nest would be considered significant. Implementation of Mitigation Measure **MM BIO-2** to avoid and minimize impacts to nesting birds would reduce potential impacts to less than significant.

The California gnatcatcher is federally listed as a threatened species. It is a year-around resident (non-migratory) that nests and forages in patches of coastal sage scrub occurring on hillsides, mesas, and washes. Coastal sage scrub communities dominated by California sagebrush, California buckwheat, and white sage seem to be preferred by this species, but shrub composition in occupied habitat varies. Territory sizes can vary from 2 to 14 acres depending on the quality of habitat and other local factors

(USFWS 2010), but may increase by as much as 80% during the non-breeding season as pairs and individuals tend to wander more widely (Preston 1998).

Approximately 11.13 acres of coastal sage scrub and 6.41 acres of disturbed coastal sage scrub were mapped on the Project Site. Of that amount, approximately 2.15 acres and 0.06 acres, respectively, would be impacted by Project development, and 8.98 acres and 6.35 acres would remain in the open space. Focused surveys for the California gnatcatcher were conducted in 2019 by Glenn Lukos Associates (GLA 2019) and were updated by LBC in 2022 (LBC 2022b). Results of both of those focused survey efforts were negative and the California gnatcatcher is not expected to occur on the Project Site now or in the near future, so additional surveys are not warranted prior to construction. Therefore, there would be no impacts to the California gnatcatcher and no mitigation would be required.

*Would the project h*ave *a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?*

Impact Analysis:

Impact B-3: Development of the Project would include retaining walls that would avoid the delineated limits of waters of the State. Therefore, impacts to jurisdictional features would be less than significant.

Three unnamed drainages are located within the boundaries of the Project site. One drainage is subject to USACE jurisdiction, and all three drainages are subject to RWQCB and CDFW jurisdiction in some capacity. Table 6 in Appendix B.5 summarizes impact to jurisdictional features.
On May 25, 2021, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) conducted a jurisdictional delineation of the Project Site to determine the presence and limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) and (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC). Exhibit 1 in Appendix D.7 shows the limits of the Project and its development components and the limits of Regional Board jurisdiction.

After the jurisdictional delineation was conducted, the Applicant designed the Project to avoid waters of the State under Regional Board jurisdiction. Exhibit 1 in Appendix D.7 demonstrates that the entire Project, through development of retaining walls, would avoid the delineated limits of waters of the State. As such, an application for Section 401 Water Quality Certification/Waste Discharge Requirements. With the development of the retaining walls, impacts to jurisdictional features impacts would be less than significant and no mitigation would be required.

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact Analysis:

Impact B-4: The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site. Impacts would be less than significant.

i) Wildlife Movement and Nursery Sites

As stated above, the Project Site is located in Carbon Canyon just west of Carbon Canyon Road, and there is ample opportunity for wildlife to move from large blocks of undeveloped land located to the west and east of the Project Site on a regional scale.

On a local scale, some wildlife may use habitat on the Project Site to move between the blocks of habitat to the east and west, funneled in part by the development north of the Project Site and the ranking may be adverse but are considered less than significant and no mitigation would be required.

Mitigation Measures:

None required.

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact Analysis:

Impact B-5: The development of the Project would directly and indirectly impact 294 trees which are protected under the City's Tree Preservation Ordinance and would, therefore, conflict with the Ordinance. However, with the implementation of mitigation measure MM BIO-1, impacts would be reduced to a level of less than significant.

The Protected Tree Report (Dudek 2020) defined direct and indirect impacts as those associated with tree removal or encroachment within the tree-protected zone (canopy dripline plus five feet or 15 feet from the trunk, whichever is greater). Tree removal is expected to be required when the trunk is located inside or within two feet of the proposed limits of grading. Encroachment is expected when soil and roots are disturbed within the tree-protected zone. Based upon the tentative Project footprint at the time of the tree survey, 217 trees (including 35 dead trees) will be directly impacted and 37 trees (11 dead trees) will be encroached upon.

Indirect impacts to trees are the result of changes to the Project Site that may cause tree decline, even when the tree is not directly injured. Site-wide changes that affect trees include diverting runoff and stormwater, creating retention and detention ponds, relocating or making improvements to streams, lowering or raising water tables, altering the capacity for soil moisture recharge, removing vegetation, or damming underground water flow. Indirect tree impacts are expected for trees located within 25 feet of the proposed Project's grading limits. . Trees located in fuel modification zones are also typically considered indirectly impacted. The Protected Tree Report found that 40 trees would be indirectly impacted based upon the proposed Project footprint. **Table IV.B-5, Summary of Tree Impacts** summarizes the number and species of trees expected to be directly and indirectly impacted based on the proposed Project footprint.

The final numbers of trees directly or indirectly impacted by the proposed Project may vary from the totals presented in this document. Changes to the proposed Project footprint may change the number of trees impacted on the Project Site. Direct and indirect impacts on 294 trees are considered significant. A conceptual tree mitigation plan is currently being prepared. Implementation of **Mitigation Measure BIO-1**, which requires the preparation and approval of a Final Tree Mitigation Plan. The Tree Mitigation Plan will include 1) responsibilities and qualifications, 2) site selection, 3) schedule, 4) maintenance plan, 5) monitoring plan, 6) long term preservation, and 7) remedial measures. All tree plantings will be subject

Table IV.B-5
Summary of Tree Impacts

Tree Species	Number of Trees on Project Site	Removal	Encroachment	Indirect Impacts
Juglans californica California black walnut	60	34 (5)	1	2 (1)
Platanus racemosa western sycamore	2	2	0	
Quercus agrifolia coast live oak	1,221	181 (30)	36 (11)	38 (3)
Quercus berberdifolia scrub oak	4	0	0	
Total	**1,287**	**217**	**37**	**40**
# = Number of dead trees *Source: Dudek 2020.*				

to a 5-year monitoring effort by an independent third-party certified arborist. In addition, successful implementation of the plan monitoring its success over a five year period will reduce impacts to less than significant. Furthermore, the Tree Mitigation Plan would replace the trees removed with a far greater number of trees, and would thus reduce the impacts on trees to a level of less than significant.

Would the project conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional or state HCP?

Impact Analysis:

Impact B-6: The development of the Project would not conflict with an adopted HCP,NCCP, or other approved HCP. Therefore, no impact would occur.

As discussed in **Section VII, Effects Found Not to be Significant** and the Initial Study (Appendix A of the Draft Focused EIR, the Project Site is not located within Critical Habitat designated by the United States Fish and Wildlife Service (USFWS), a Habitat Conservation Plan (HCP) area, or an established Natural Community Conservation Plan (NCCP).[1] Therefore, no impact would occur and no mitigation measures would be required.

Mitigation Measures:

None required.

4. CUMULATIVE IMPACTS

As indicated in **Section III, Environmental Setting**, of this Draft Focused EIR, the nearest Related Projects include Nos. 7 and 17, which are residential uses located on Carbon Canyon Road. None of the Related Projects would share adjacent street frontages with the Project Site.

[1] *Paradise Ranch Project Biological Technical Report, Leatherman BioConsulting, Inc., September 3, 2021.*

Cumulative impacts are defined as the direct and indirect effects of a proposed Project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed Project.

Although special status species are generally not expected to occur on the Project Site due to the disturbed nature of the site, the lack of suitable habitat for most, and the close proximity to rural developments to the north, east, and south, the Project Site does provide limited potential foraging habitat raptors, nesting habitat for birds, and coast live oak woodland and forest. Other biological resources are also potentially present and could be impacted on the Project Site.

The Project would develop approximately 18 acres and retain 67 acres as open space, in addition, similar habitat occurs to the west and throughout Chino Hills State Park immediately to the east. To offset potentially significant impacts, the proposed Project shall comply with all applicable mitigation measures and City planning documents.

The Project Site is not within any adopted HCP, NCCP, or any other approved local, regional, or state habitat conservation plan. Therefore, implementation of the proposed Project would not conflict with the provisions of any such adopted plan. Based on the assessment of biological resources provided herein, and when considered in the context of other past, current and future projects in the City and the county, adverse cumulative effects to regional biological resources as a result of implementing the proposed Project are expected to be less than significant with implementation of mitigation measures.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measures **MM BIO-1 and MM BIO-2** Project impacts related to biological resources would be reduced to a level of less than significant.

With the implementation of Mitigation Measures **MM BIO-1 and MM BIO-2** cumulative impacts related to biological resources would be reduced to a level of less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
C. CULTURAL RESOURCES

1. INTRODUCTION

This section of the Focused EIR assesses potential impacts to cultural resources, including historical and archaeological resources, as well as the disruption of human remains, that could result from implementation of the Project. Historical Resources include all properties (historic, archaeological, landscapes, traditional, etc.) eligible or potentially eligible for the National Register of Historic Places, as well as those that may be significant pursuant to state and local laws and programs. Archaeological resources include artifacts, structural remains, and human remains belonging to an era of history or prehistory. This section is based on information provided in Appendix E of this Draft Focused EIR, which includes *Cultural Resources Identification and Evaluation Report for the Chino Hills Project, Chino Hills, San Bernardino County, California, prepared by Kleinfelder, November 24, 2021.*

2. ENVIRONMENTAL SETTING

A. Project Background and Description

The Project area is 85 acres and includes the Project footprint and the full extent of ground disturbance. The Project area is located on assessor parcel numbers (APNs) 1000-051-19 and 1000-051-09 on the Santa Ana Del Chino Land Grant on the Yorba Linda, California, 7.5-minute United States Geological Survey (USGS) quadrangle (USGS 1981). The Project area currently consists of very hilly private property with two residential structures, two barns, a shed and associated corral, a garage, and four additional buildings. It is bordered to the north by houses along Esquiline Drive and Alpine Court in a hilly area, to the west by hills and chaparral forest, to the south by hills and houses, and to the east by a neighborhood in a hilly area (see **Figure III-1, Section III, Environmental Setting**).

B. Historic Setting

i) Contact Mission, and Rancho Periods

In 1542, Juan Sebastian Cabrillo was the first of the exploring Europeans to sail along the California coast. During the next 125 years, the Native Americans of California had sporadic contact with European explorers. The Portolá expedition left San Diego on July 14, 1769, becoming the first Europeans to explore by land what is now California.

The arrival of the Spanish and establishment of the missions marked the start of the rapid decline of Native American tribal life across California. Many factors impacted native culture including the significant decimation of the population from introduced European diseases and the replacement of the traditional social, subsistence, and settlement patterns by newly introduced mission systems. The introduction of European plants and animals also resulted in the alteration of the landscape. The mission system was partly initiated as a way for Spain to manage indigenous populations of Alta California and to convert the native people of California into Catholic citizens of Spain (known as neophytes). In the charter of the Alta California Missions, a stipulation stated that 10 years after the establishment of a mission, the land and

holdings would be transferred to the Native Americans for their benefit; this never came to pass (Lightfoot 2005). The mission San Gabriel Archangel was established as the fourth of the Alta California Missions by Junipero Serra on September 8, 1771. Beginning in 1771, Mission San Gabriel was given control over all the lands east and south of the mission, including the Chino Hills area. The lands were primarily used for cattle grazing and other ranching activities to support the Mission (City of Chino Hills 2015).

After Mexico achieved independence from Spain in 1821, the Mexican government seized ownership of church properties through the Secularization Act of 1833, and lands were redistributed to soldiers and influential Mexican citizens as ranchos through a tribute system. The 22,000-acre Rancho Santa Ana del Chino was granted in 1841 to Antonio Maria Lugo, a prominent Mexican citizen. His daughter married American-born Isaac Williams, and the couple established an adobe on the property. After obtaining Mexican citizenship, Williams was granted 17,280 acres adjoining Rancho Santa Ana del Chino (City of Chino Hills 2015).

In September 1846, as war between Mexico and the United States was declared, the first battle of the war took place at the Williams adobe when a group of Americans stopped to rest and encountered a group of Californios resulting in damage to the Williams adobe and the capture of the Americans (City of Chino Hills 2005). California was annexed to the United States in 1848 through the Treaty of Guadalupe Hidalgo, which ended the Mexican-American War, and, on September 9, 1850, California became the 31st state in the Union (San Bernardino County 2021).

ii) Ranching and Agricultural

After the Mexican-American War, Williams acquired the entirety of Rancho Santa Ana del Chino, then known as Chino Ranch. After his death, the land was passed to his daughters who continued to administer the land until 1847 when the ranch was sold to former prospector Richard Gird. Gird subdivided the eastern portion of the ranch and developed the town of Chino. He retained the portion for the land that is now Chino Hills and continued to ranch the property until 1894. In 1894, Gird sold his remaining property which was subsequently subdivided and sold to various buyers. The area was largely used for agricultural purposes with the notable exceptions of the Brea-Olinda Field west of Chino Hills established in the 1890s and the Boys Republic school established in 1909 (City of Chino Hills 2005).

While much of Chino Hills had primarily been used for ranching, the dairy industry greatly expanded in the region in the 1950s. The post-World War II housing boom and the growth of the aerospace industry that affected all of Southern California was particularly concentrated in Los Angeles. Large agricultural properties in Los Angeles County were rapidly being converted to large housing tracts to meet the demand of returning soldiers and aerospace employees. These developments pushed out dairy farmers, largely concentrated in south Los Angeles County, many of whom relocated to the Chino Hills area. The industry peaked in the region in the 1980s with 400 dairies and 400,000 cows. The housing boom of the 1970s and 1980s in Chino Hills eventually caught up with the dairy farmers, and many sold their land and relocated or retired (Allen 2018).

Chino Hills also has a long history of horse breeding, dating back to the Rancho Period, but it was not until the early 20th century that professional horse breeders established themselves in the Chino Hills region. Revel Lindsay English, a Pasadena entertainer, riding instructor, and horse breeder, purchased property in the Chino Hills area in 1908 and established the Sierra Vista Stock Farm. In the 1920s, English began living at Sierra Vista Stock Farm fulltime and devoted himself to his horse breeding operation, becoming known for breeding award-winning saddle horses (Spitzzeri 2014). Chicago banker Albert W. Harris

established the Anazel horse farm in Chino Hills in 1927. Harris raised Arabian horses at the farm until he sold the property in 1951 (Spitzzeri 2019).

iii) Recreation

In 1914, prominent Los Angeles businessmen Harry Chandler, Tom Scott, and William Rowland purchased a large portion of land near Chino Hills and named it Tres Hermanos Ranch. The ranch was used primarily for recreational ranching by the families of the three men. By the 1920s, recreation in the area was made more accessible to the general public, although mostly the affluent, with the establishment of the Sleepy Hollow Resort in 1922 and the Los Serranos Country Club in 1925 (City of Chino Hills 2005). The Sleepy Hollow Resort transitioned from a recreational use facility to a residential community, as the demand for housing led to more people taking up fulltime residence in the existing houses and others to build primary residences in the area as well. The Los Serranos Country Club has been in continuous operation since 1925.

iv) Residential Development and Incorporation

Chino Hills, as with the rest of Southern California, experienced a period of residential growth beginning in the post-World War II period initiated by the increased demand for single-family housing and the establishment of the aerospace industry in Southern California. In 1954, an 800-acre site south of Soquel Canyon was selected for an Aerojet facility that assembled and tested ordnance for the United States Department of Defense. Beginning in the late 1970s, residential development increased in Chino Hills with a major boom in the 1980s. This residential development occurred mostly in the central area of Chino Hills and was organized into planned communities known as Carbon Canyon, The Oaks, Woodview, and Los Serranos (City of Chino Hills 2005).

v) Project Site History (APN-1000-051-09)

Part of the Project Site, APN-1000-051-09, is part of the Rancho Santa Ana del Chino land grant that was eventually purchased by Richard Gird in 1874. The land was part of the ranch property he retained after subdividing portions of the property to form the town of Chino. Gird retained the property until 1894 when he subdivided his remaining holdings and sold them to ranchers and farmers. Little information was identified in available historical records regarding the landowners and uses of the property during the late-nineteenth and early-twentieth centuries. The earliest structure built on the property is the single-family residence constructed in 1920 (San Bernardino County Assessor 2021). During the remainder of the twentieth century and the early twenty first century, several buildings, fences, corrals, and structures were constructed. By 1938, a cistern was constructed on the property (Building 11), as well as a barn (Building 2). By 1952, an additional residence (Building 3) and an additional barn (Building 8) were constructed on the property, followed by a shed with an associated corral (Building 4) and a garage (Building 9) by 1959. Four additional buildings were constructed on the property by 2005 (Buildings 5,6,7,10) (Nationwide Environmental Title Research, LLC. [NETR] 2021).

Based on the property types present and the review of historic aerials, the property has consistently been used for residential purposes from as early as 1920 and continued to be used in that capacity into the present. The land was likely used for grazing during the early twentieth century; however, additional infrastructure including barns and other outbuildings are not visible until aerials from 1952 (NETR 2021).

By 1976, the parcel was owned by Donald S. Andrich and Jean M. Andrich. The property was entered into a trust in 1988 before transferring to Philip J. Gentile Jr. and Rose A. Gentile, also in 1988. The property

passed into a trust in 1999 and is currently still held by that trust (San Bernardino County Assessor 2021). Research has yielded little information regarding any of the identified owners of the property that indicates that they have made significant contributions to history.

C. Regulatory Setting

i) Federal Regulations

1) National Historic Preservation Act and National Register of Historic Places

The National Historic Preservation Act of 1966 established the National Register of Historic Places (National Register) as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment".[1] The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. Within the National Register, approximately 2,500 (3 percent) of the more than 90,000 districts, buildings, structures, objects, and sites are recognized as National Historic Landmarks or National Historic Landmark Districts as possessing exceptional national significance in American history and culture.[2]

Whereas individual historic properties derive their significance from one or more of the criteria discussed in the subsequent section, a historic district "derives its importance from being a unified entity, even though it is often composed of a variety of resources. With a historic district, the historic resource is the district itself. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties."[3]

A district is defined as a geographic area of land containing a significant concentration of buildings, sites, structures, or objects united by historic events, architecture, aesthetic, character, and/or physical development. A district's significance and historic integrity determine its boundaries. Other factors include:

- Visual barriers that mark a change in the historic character of the area or that break the continuity of the district, such as new construction, highways, or development of a different character;
- Visual changes in the character of the area due to different architectural styles, types, or periods, or to a decline in the concentration of contributing resources;
- Boundaries at a specific time in history, such as the original city limits or the legally recorded boundaries of a housing subdivision, estate, or ranch; and

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1 *36 Code of Federal Regulations (CFR) 60.*

2 *United States Department of the Interior, National Park Service, National Historic Landmarks Frequently Asked Question, 2021.*

3 *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, page 5.*

- Clearly differentiated patterns of historical development, such as commercial versus residential or industrial.[4]

Within historic districts, properties are identified as contributing and non-contributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant because:

- It was present during the period of significance, relates to the significance of the district, and retains its physical integrity; or
- It independently meets the criterion for listing in the National Register.

A resource that is listed in or eligible for listing in the National Register is considered "historic property" under Section 106 of the National Historic Preservation Act.

a) Criteria

To be eligible for listing in the National Register, a resource must be at least 50 years of age, unless it is of exceptional importance as defined in Title 36 of the Code of Federal Regulations (CFR), Part 60, Section 60.4(g). In addition, a resource must be significant in American history, architecture, archaeology, engineering, or culture. The following four criteria for evaluation have been established to determine the significance of a resource:

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.[5]

b) Context

To be eligible for listing in the National Register, a property must be significant within a historic context. National Register Bulletin #15 states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are "those patterns, themes, or trends in history by which a specific...property or site is understood and its meaning... is made clear."[6] A property must

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[4] *United States Department of the Interior, National Register Bulletin #21: Defining Boundaries for National Register Properties Form, 1997, page 12.*

[5] *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, page 8.*

[6] *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, pages 7 and 8.*

represent an important aspect of the area's history or prehistory and possess the requisite integrity to qualify for the National Register.

c) Integrity

In addition to meeting one or more of the criteria of significance, a property must have integrity, which is defined as "the ability of a property to convey its significance."[7] The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. In general, the National Register has a higher integrity threshold than State or local registers.

In the case of districts, integrity means the physical integrity of the buildings, structures, or features that make up the district as well as the historic, spatial, and visual relationships of the components. Some buildings or features may be more altered over time than others. In order to possess integrity, a district must, on balance, still communicate its historic identity in the form of its character defining features.

d) Criteria Considerations

Certain types of properties, including religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the seven categories of Criteria Considerations A through G, in addition to meeting at least one of the four significance criteria discussed above, and possess integrity as defined above.[8] Criteria Consideration G is intended to prevent the listing of properties for which insufficient time may have passed to allow the proper evaluation of their historical importance.[9] The full list of Criteria Considerations is provided below:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

C. A birthplace or grave of a historical figure of outstanding importance, if there is no other appropriate site or building directly associated with his or her productive life; or

D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

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[7] *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, page 44.*

[8] *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, page 25.*

[9] *United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, page 41.*

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

G. A property achieving significance within the past 50 years, if it is of exceptional importance.

2) Secretary of the Interior's Standards

The National Park Service issued the Secretary's Standards with accompanying guidelines for four types of treatments for historic resources: Preservation, Rehabilitation, Restoration, and Reconstruction. The most applicable guidelines should be used when evaluating a project for compliance with the Secretary's Standards. Although none of the four treatments, as a whole, apply specifically to new construction in the vicinity of historic resources, Standards #9 and #10 of the Secretary's Standards provides relevant guidance for such projects. The Standards for Rehabilitation are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.[10]

It is important to note that the Secretary's Standards are not intended to be prescriptive but, instead, provide general guidance. They are intended to be flexible and adaptable to specific project conditions to balance continuity and change, while retaining materials and features to the maximum extent feasible. Their interpretation requires exercising professional judgment and balancing the various opportunities and constraints of any given project. Not every Standard necessarily applies to every aspect of a project, and it is not necessary for a project to comply with every Standard to achieve compliance.

3) Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) requires federal agencies to return Native American cultural items to the appropriate Federally recognized Indian tribes or Native Hawaiian groups with which they are associated.[11]

4) Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) of 1979 governs the excavation, removal, and disposition of archaeological sites and collections on federal and Native American lands. This act was most recently amended in 1988. The ARPA defines archaeological resources as any material remains of human life or activities that are at least 100 years of age, and which are of archeological interest. The ARPA makes it illegal for anyone to excavate, remove, sell, purchase, exchange, or transport an archaeological resource from federal or Native American lands without a proper permit.[12]

5) Archaeological Data Preservation Act

The Archaeological Data Preservation Act (ADPA) requires agencies to report any perceived project impacts on archaeological, historical, and scientific data and requires them to recover such data or assist the Secretary of the Interior in recovering the data.

ii) State Regulations

1) California Environmental Quality Act

The California Environmental Quality Act (CEQA) is the principal statute governing environmental review of projects occurring in the state and is codified in Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA

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[10] *United States Department of the Interior, National Park Service, the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, 2017.*

[11] *United States Department of the Interior, National Park Service, Native American Graves Protection And Repatriation Act, 1990.*

[12] *United States Department of the Interior, National Park Service, Technical Brief # 20: Archeological Damage Assessment: Legal Basis and Methods, 2007.*

Section 21084.1, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.

CEQA Guidelines Section 15064.5 recognizes that historical resources include: (1) resources listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources; (2) resources included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any objects, buildings, structures, sites, areas, places, records, or manuscripts which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of PRC Section 21083, if it meets the criteria of a unique archaeological resource. As defined in PRC Section 21083.2, a unique archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in PRC Section 21083.2, then the site is to be treated in accordance with the provisions of PRC Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place.[13] If preservation in place is not feasible, mitigation measures shall be required. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment.[14]

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired".[15] According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

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[13] *California Public Resources Code Section 21083.1(a).*
[14] *State CEQA Statute and Guidelines, Section 15064.5(c)(4).*
[15] *State CEQA Guidelines, Section 15064.5(b)(1).*

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to PRC Section 5020.1(k) or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g) Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings is considered to have impacts that are less than significant.[16]

a) Title 14 California Code of Regulations (CCR) 1427

This section of CEQA recognizes that California's archaeological resources are endangered by urban development; the legislature finds that these resources need preserving; it is a misdemeanor to alter any archaeological evidence found in any cave, or to remove any such materials from a cave.

b) Title 14 CCR 15064.4 subsection (b)

This section of CEQA defines "historical resource," addresses reburial options for Native American remains, and presents the preferred mitigation of historical resources.

c) Title 14 CCR 15064.5

This section of CEQA identifies which resources are considered cultural resources, as stated below.

- Resource(s) listed or eligible for listing on the California Register of Historic Places (CRHR) (Title 14 CCR Section 15064.5(a)(1).
- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant," (Title 14 CCR Section 15064.5(a)(2)).
- Resources identified as significant in a historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code (PRC) [Title 14 CCR Section 15065.5(a)(2)].

In addition, Subdivision (g) provides the guidelines referenced below regarding historical surveys.

A resource identified as significant in a historical survey may be listed in the CRHR if the survey meets all the following criteria:

- The survey has been or will be included in the CRHR,

[16] *State CEQA Guidelines, 15064.5(b)(3).*

- The survey and the survey documents were prepared in accordance with procedures and requirements of the California Office of Historic Preservation,
- The resource is evaluated and determined by Office of Historic Preservation to have a significance rating of Category 1 to 5 on the DPR Historic Resources Inventory Form,
- If the survey is five years or older at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historic resources that have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource; and
- Resources identified during such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

A final category of "historical resources" may be determined at the discretion of the lead agency when:

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record [Title 14 CCR Section 15064.5(a)(3)].

When a proposed project identifies the existence of, or the probable likelihood of, Native American human remains within a project, the lead agency shall work with the appropriate Native Americans as identified by Native American Heritage Commission (NAHC). An applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by NAHC (Title 14 CCR Section 15064.5(d)).

d) Title 14 CCR 15064.5 (b)

This section addresses mitigation, and states that the preferred mitigation for historical resources is treatment in a manner consistent with Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. The preferred mitigation for archaeological sites is preservation in place.

e) Title 14 CCR 15064.7

This section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant".

f) Title 14 CCR 15126.4

"Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects", sub-section (b) "Mitigation Measures Related to Impacts on Historical Resources" Subsection (b) discusses:

- Impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource,
- Documentation as a mitigation measure, and

- Mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible; data recovery must be conducted in accordance with an adopted data recovery plan.

g) Assembly Bill (AB) 52

The AB 52 process entails the following:

- The CEQA lead agency must begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe has requested such notification to the lead agency, in writing. The notification request requires that the lead agency inform tribes who that requested such notification within the geographic area in which they identified. Additionally, there are timelines in the legislation for notification, response to request for consultation, and initiation of consultation. Specifically, the lead state agency is required to notify tribe(s) that have requested project notification under AB 52 within 15 days of determining there is a project; the tribe(s) then have 30 days to respond to this notification and request consultation: upon receipt of a request for consultation the lead agency must then initiate consultation with the tribe(s) within 30 days.

- AB 52 applies to the following CEQA documents: Negative Declaration, Mitigated Negative Declaration, or Notification of Preparation of an Environmental Impact Report. Such documents cannot be released for public review before tribal consultation has concluded as discussed in **Section IV. H, Tribal Cultural Resources** of this Draft Focused EIR.

- The legislation also stipulates that any information identified by the consulting tribe not be disclosed to the public without permission from the tribe.

AB 52 further defines the following legislative terms:

PRC 21074 (Tribal Cultural Resource [TCR]): The statute identifies TCR as separate and distinct category of resource, separate from a historical resource. New PRC Section 21074 further defines a TCR as any of the following under its subsections (a) through (c):

a) Sites, features, places, and objects with cultural value to descendant communities or cultural landscapes that are any of the following:

- Listed on the CRHR.

- Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

- Deemed to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

b) Sacred places, including, but not limited to, Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines that meet either of the following criteria:

- Listed on the California NAHC's Sacred Lands File (SLF) pursuant to Section 5097.94 or 5097.96 and a California Native American tribe has submitted sufficient evidence to the lead agency demonstrating that significance to the California Native American tribe or contain known graves and cemeteries of California Native Americans.

- Listed or determined pursuant to criteria set forth in subdivision (g) of Section 5024.1 to be eligible for listing in the CRHR.

c) A cultural landscape is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

d) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2, also may be a TCR if it conforms with the criteria of subdivision (a).

2) Public Resource Codes (PRC)

a) PRC Section 5020.1

This section defines several terms, including those provided below.

"Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

"Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.

b) PRC Section 5024.1

This section establishes the CRHR. A resource may be listed as a historical resource in the CRHR if it meets the NRHP criteria or the following state criteria:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage,
- is associated with the lives of persons important in our past,
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or
- has yielded, or may be likely to yield, information important in prehistory or history.

c) PRC Section 5097.5

This section states that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority or public corporation, or any agency thereof.

d) PRC Section 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains by the County coroner,

is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

e) PRC Section 5097.99, 5098.991

These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. The sections also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

f) PRC Section 21083.2

This section states that under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an EIR shall be prepared to address these resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that the resource meets one of the following criteria:

- contains information needed to answer important research questions and that a demonstrable public interest exists in that information,
- has a special and particular quality, such as being the oldest or best example of its type, and/or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide conditions or mitigation measures to protect them.

g) PRC Section 21084.1

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed on the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

3) Senate Concurrent Resolution 43

This resolution requires state agencies to cooperate with archaeological survey and excavation programs, and to preserve known archaeological resources whenever reasonable.

4) Senate Bill 18 (Burton 2004)

This bill requires protection and preservation of Native American traditional cultural places during city and county general plan development.

5) California Register of Historical Resources

The California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[17] The California Register was enacted in 1992, and its regulations became official on January 1, 1998. The California Register is administered by the California Office of Historic Preservation (OHP). The criteria for eligibility for the California Register are based upon National Register criteria.[18] Certain resources are determined to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register. To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

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[17] *California Public Resources Code, Section 5024.1[a].*
[18] *California Public Resources Code, Section 5024.1[b].*

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

6) California Health and Safety Code

California Health and Safety Code Sections 7050.5, 7051, and 7054 address the illegality of interference with human burial remains (except as allowed under applicable PRC Sections), and the disposition of Native American burials in archaeological sites. These regulations protect such remains from disturbance, vandalism, or inadvertent destruction, and establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including treatment of the remains prior to, during, and after evaluation, and reburial procedures.

7) California Health and Safety Code 8010-8011

This code is intended to provide consistent state policy to ensure that all California Native American human remains and cultural materials are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

8) California Penal Code Section 622.5

This code states that anyone who willfully damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.

iii) Local Regulations

1) City of Chino Hills General Plan

The City of Chino Hills General Plan adopted February 2015 (City of Chino Hills, 2021) contains a series of goals, policies and actions regarding the treatment of cultural and paleontological resources during undertakings projects within the city. The City's General Plan under Chapter 4. Conservation Element on section E. Conservation Element Issues, provides background and specific information on the potential for finding cultural and paleontological resources within the City which includes historical and archaeological resources.

The following goals, policies and actions supporting the protection and management of historical and archaeological resources are reproduced below:

Goal CN-2: Protect Chino Hills' Cultural Resources

Policy CN-2.1: Protect Chino Hills' archaeological resources.

- **Action CN-2.1.1:** Require appropriate archaeological surveys as part of the environmental review process where archaeological resources may be present.

- **Action CN-2.1.2**: Require on-site inspections by a qualified archaeologist during grading activities where archaeological resources may be present.
- **Action CN-2.1.3:** Where archaeological resources are found during development activities, require identified archaeological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional archaeologist.
- **Action CN-2.1.4:** Consult with local Native American tribes as required to avoid impacts on archaeological resources.

Policy CN-2.2: Protect Chino Hills' paleontological resources.

- **Action CN-2.2.1:** Require appropriate paleontological surveys as part of the environmental review process where paleontological resources may be present.
- **Action CN-2.2.2:** Where paleontological resources are found during development activities, require on-site inspections by a qualified paleontologist during grading activities where paleontological resources may be present.
- **Action CN-2.2.3:** Require identified paleontological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional paleontologist.

Policy CN-2.3: Protect Chino Hills' potential historical resources.

- **Action CN-2.3.1**: Prior to a change of land use or other action on the Boys Republic property that could disturb a potential historic resource, require a historic resource survey of the property by a qualified historic resource consultant, and consider incorporating any recommendations as requirements into subsequent development approval.
- **Action CN-2.3.2:** Prior to a change of land use or other action on the Tres Hermanos property that could disturb a potential historic resource, require a historic resource survey of the property by a qualified historic resource consultant, and consider incorporating any recommendations as requirements into subsequent development approval.
- **Action CN-2.3.3:** Prior to grading on-site of the original clubhouse of the 1925 Los Serranos Country Club, require an appropriate archaeological survey to determine the presence of artifacts associated with the former Bridger/Gird Adobe site and consider incorporating any recommendations as requirements into subsequent development approval.
- **Action CN-2.3.4**: Consider placement of markers to acknowledge the local importance to Chino Hills' history of the Carbon Canyon and English Road equestrian communities.
- **Action CN-2.3.5:** For structures over 45 years old, review available City building records and make a determination regarding the structure's potential historical significance prior to permitting its demolition or substantial alteration.

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Threshold of Significance

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or
c) Disturb any human remains, including those interred outside of dedicated cemeteries.

B. Methodology

i) Background Research

Kleinfelder archaeologists (Appendix E) conducted background research for the Project. Research consisted of a records search, historical maps review, and archival research. This research was conducted to identify if previous cultural resources studies and/or resources have been identified within the Project area, as well as to identify the potential for such resources to occur and to better understand the prehistoric and historical context of the area. The methods and results are presented below.

ii) Historic Report

This analysis relies upon the *Cultural Resources Identification and Evaluation Report for the Chino Hills Project, Chino Hills, San Bernardino County, California, prepared by Kleinfelder, November 24, 2021*, included as Appendix E, of this Draft Focused EIR. This Report was prepared by professional individuals who meet or exceed the Secretary of the Interior's Professional Qualification Standards in history, architectural history, and historic preservation planning. Site inspections and property history research were conducted to document and assist in assessing the existing conditions. The Project's conceptual design plans were reviewed, and visual inspections of the Project Site were conducted.

All applicable professional standards for the identification and evaluation of historic resources were utilized in the preparation of this historic assessment, including (but not limited to):

- Secretary of the Interior's Standards for Preservation Planning
- *National Register Bulletin 24. Guidelines for Local Surveys: A Basis for Preservation Planning*
- *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*
- *Instructions for Recording Historical Resources* (State of California Office of Historic Preservation)

The Project Site was evaluated for significance under applicable criteria, including those for the National Register and California Register and local designation programs (see Regulatory Setting, above). A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. In general, a significant effect under CEQA

would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). In addition, while assessing the project's impacts under CEQA, it is important to consider the ability of the historical resources to retain their integrity. A project that diminishes the integrity of a resource such that the significance of a historical resource is materially impaired is a project that would result in a significant impact on the environment.

The potential impacts of the Project were analyzed in accordance with Section 15064.5 of the State CEQA Guidelines. The *Cultural Resources Identification and Evaluation Report for the Chino Hills Project, Chino Hills, San Bernardino County, California, prepared by Kleinfelder, November 24,* is attached to this Draft Focused EIR as Appendix E.

iii) Records Search Method

A cultural resource records search was conducted by the South Central Coast Information Center (SCCIC) at California State University (CSU), Fullerton in Fullerton, California of the California Historical Resources Information System (CHRIS) on April 21, 2021 (SCCIC File No.: 22378.8590). The records search encompassed the Project area and a 0.25-mile buffer radius. The purpose of the record search was to identify if any prehistoric and/or historic-period cultural resources and studies had been previously documented in the Project area and/or the surrounding 0.25-mile radius in order to better understand the archaeological sensitivity of the area. This search also included an examination of historical maps of the area. The California Points of Historical Interest, the California Historical Landmarks, the CRHR, the NRHP, and the California Inventory of Historic Resources listings were also reviewed to determine if there were any resources listed or determined to be eligible for CRHR, NRHP, or local listing within the Project area.

C. Project Impacts and Mitigation Measures

Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Impact Analysis:

Impact C-1: The buildings located at APN 1000-051-09 are not collectively or individually eligible for inclusion in the CRHR. Therefore, the buildings located at APN 1000-051-09 are not considered historical resources for the purposes of CEQA. The Project would not result in a substantial adverse change to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines and impacts would be less than significant.

i) Project Site

The buildings located on APN-1000-051-09 were constructed between 1920 and ca. 2005. The property is comprised of two historic-period residences (Buildings 1, constructed 1920; and 3, constructed ca. 1952), two historic-period barns (Buildings 2, constructed ca. 1938; and 8, constructed ca. 1952), a historic-period shed and associated corral (Building 4, constructed ca. 1959), a historic-period garage (Building 9, constructed ca. 1959), a historic-period cistern (Building 11, constructed ca. 1938, and four additional non-historic-period buildings (Buildings 5,6,7,10; constructed ca. 2005).

ii) Historic Context

The following provides a brief summary of the historical context of the 11 buildings found on site. For greater detail please see Appendix E.

Building 1 is a one-story Minimal Traditional style single-family residence constructed in 1920. It features a low-pitched cross-gable and salt-box composite shingle roof and an irregular floor plan.

The building is clad in wood shingle and horizontal wood siding. The primary entrance is centered on the south elevation and is filled with a door with a jalousie window. A double-hung window is located adjacent to the door and the entryway is located in a covered patio. The east portion of the elevation features a projection with a double-hung window, a wood vent centered under the peak of the gable, horizontal wood siding, and a shingle siding accent along the lower portion of the elevation. The east elevation of the projection features a double-hung window. Two double-hung windows are located to the east of the projection. The west portion of the south elevation is clad in wood shingle and features a 5x5 multi-light fixed window and a double-hung window. The east elevation features horizontal siding and three double-hung windows. The north elevation features horizontal siding, a double-hung window, and a projection on the east portion of the elevation. The center portion of the elevation features shingle siding, double-hung windows, and a projection. The western portion of the elevation features a shed-roof addition with horizontal siding and fixed and sliding windows. The west elevation features a double-hung window and a stone chimney that extends from the foundation to above the roofline. The north portion of the elevation is comprised of the addition which features vertical siding, French doors, and sliding and fixed windows.

Building 2 is a one-story utilitarian style barn constructed ca. 1938. It features a rectangular plan and a medium-pitched corrugated metal roof. The building is of wood construction and is clad in vertical wood planks. The building is raised on posts.

Building 3 is a one-story vernacular style single-family residence constructed ca. 1952. The building has an irregular plan, low-pitched cross gable and shed corrugated metal roof, and vertical wood board-and-batten siding. The primary entrance is located off-center on the south elevation and is flanked by two sliding windows. The entry is filled with a door and a security screen door. The east elevation features an entrance with security screen door located off-center on the elevation. The elevation also features sliding vinyl-framed windows. The south portion of the elevation features a plywood addition. The west elevation features an entry door located off center on the elevation. Fenestration includes sliding windows. The south portion of the elevation features a projection. The north elevation features no doors or fenestration. A wood inset may have previously been a window opening.

Building 4 is a one-story utilitarian shed and associated corral constructed ca. 1959. The shed has a medium-pitched corrugated metal gable roof and a rectangular plan. The building is clad in corrugated metal. The west elevation features an opening centered on the elevation beneath an awning. The south elevation features an entrance located off-centered on the elevation and a corrugated metal shed-roof awning. The east elevation features two window openings and a corrugated metal patio cover supported by wood posts. The north elevation features no doors or fenestration. The building is associated with an adjacent corral constructed of wood, wire, and tubular metal fencing and corrugated metal panels.

Building 5 is a stable constructed ca. 2002. It has not achieved the age threshold for consideration as a historical resource and there is no indication that any special consideration should be applied to the building. Therefore, building 5 is not a potential contributor to the historical significance of this property.

Building 6 is a one-story shed building constructed ca. 2002. It has not achieved the age threshold for consideration as a historical resource and there is no indication that any special consideration should be applied to the building. Therefore, building 6 is not a potential contributor to the historical significance of this property.

Building 7 is a one-story shed building constructed ca. 2002. It has not achieved the age threshold for consideration as a historical resource and there is no indication that any special consideration should be applied to the building. Therefore, building 7 is not a potential contributor to the historical significance of this property.

Building 8 is a one-story utilitarian style barn constructed ca. 1952. The building has a rectangular plan and a medium-pitched corrugated metal gable roof. The building is of concrete block, wood, and corrugated metal construction. The southeast elevation features a Dutch door located off center on the elevation and a window opening filled with a hinged wooden door. The southwest elevation features no doors and a window opening filled with plywood. The northeast elevation features no doors or fenestration. The northwest elevation features a barn door and an entrance door.

Building 9 is a one-story utilitarian style garage constructed ca. 1959. The building features a rectangular plan and a medium-pitched corrugated metal roof. The building is clad in corrugated metal. The north elevation features three large bays with hinged garage doors. The west elevation features a window opening centered on the elevation and a vent located beneath the peak of the gable. The south elevation features no doors or fenestration. The east elevation features no doors or fenestration. A vent is located beneath the peak of the gable.

Building 10 is a one-story wooden shed constructed ca. 2005. It has not achieved the age threshold for consideration as a historical resource and there is no indication that any special consideration should be applied to the building. Therefore, building 10 is not a potential contributor to the historical significance of this property.

Building 11 is a concrete cistern with an approximate circumference of 96.5 feet constructed ca. 1938. The structure is circular and constructed of poured concrete. A small intake is located on the south elevation. The structure is surrounded by wooded posts that would have previously supported a cover for the cistern.

iii) Cultural Resources Scatter

This cultural resource site consists of a refuse scatter measuring 25 feet (north/south) by 13 feet (east/west). The site is located on a slope near the top of a ridge behind the garage of a large white house located at the center of the Project area. The site is composed of 31 historical glass fragments varied in color including, 11 amethyst glass fragments, 13 aqua glass fragments, one cobalt glass fragment, two green glass fragments, two red glass fragments, and two brown glass fragments. One amethyst cup fragment with a handle was noted. Other components observed within the site are non-historic materials, including red brick, a concrete block, wood, and metal fragments. No maker's mark on the glass fragments were observed. The site is likely a single episode dumping dating back to the 1914 to 1945 era, as there is a fragment of a possible Tiara glass amber sandwich pattern of a coffee/tea cup with handle dating to the 1920's.

iv) Criteria Analysis of the Project Site

The site is not associated with events that have made a significant contribution to the broad patterns of the history and cultural heritage of the United States (Criterion 1); the site is not directly associated with the lives of persons significant to the nation's past (Criterion 2); this site does not embody distinctive characteristics of a type, period, region, or method of construction, or that represents the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction (Criterion 3); nor is there the potential for subsurface or additional data that could yield information important to the prehistory or history of the nation (Criterion 4).

The site consists of a refuse deposit that represent a possible single event, with no evidence of subsurface potential, dating back to the 1914 to 1945 era. As a result, this site is recommended not eligible under any criteria for listing on the CRHR.

This cultural resource consists of a historical refuse scatter that measures located in a natural drainage in a level area 310 feet southwest of the white house at the center of the Project area. Refuse includes white-ware sherds (one colored), one complete clear glass bottle with a "B4" makers mark, and a brown glass bottle fragment.

This cultural resource site consists of a refuse scatter measuring 5 feet (northeast/southwest) by 10 feet (northwest/southeast). The site is located in a natural drainage area in a level area at approximately 310 feet (94.4 meters) southwest towards the top of a ridge above of a large white house located at the center of the Project area. The site is composed of 5 small whiteware ceramics with a floral design, one brown glass bottle fragment and one complete clear glass bottle. The area exhibits evidence of rodent activity which could possibly indicate potential for a buried deposit. However, due to the number of materials found, a minimal probability to find subsurface artifacts could be expected. No maker's mark on the ceramic and glass fragments were observed. The site is likely a single episode dumping dating back to the 1914-1945 era, as there is a possible perfume Brockway Glass Company ("B" maker's mark) complete clear glass bottle dating back to the 1930's.

The site is not associated with events that have made a significant contribution to the broad patterns of the history and cultural heritage of the United States (Criterion 1); the site is not directly associated with the lives of persons significant to the nation's past (Criterion 2); this site does not embody distinctive characteristics of a type, period, region, or method of construction, or that represents the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction (Criterion 3); as the site exhibits evidence of rodent activity within the found resources, which could indicate possibility subsurface resources, the materials observed do not add additional data that could yield information important to the prehistory or history of the nation (Criterion 4).

The site consists of a refuse deposit that represent a possible single event, with evidence of subsurface potential, dating back to the 1914 to 1945 era. As a result, at this stage and with the surface materials observed this site is not recommended eligible under Criterion 4 or any of the other criteria for listing on the CRHR.

v) Criteria Analysis of the Buildings

As stated above, the buildings located on APN-1000-051-09 were constructed between 1920 and ca. 2005. The property is comprised of two historic-period residences (Buildings 1, constructed 1920; and 3, constructed ca. 1952), two historic-period barns (Buildings 2, constructed ca. 1938; and 8, constructed ca. 1952), a historic-period shed and associated corral (Building 4, constructed ca. 1959), a historic-period garage (Building 9, constructed ca. 1959), a historic-period cistern (Building 11, constructed ca. 1938, and four additional non-historic period buildings (Buildings 5,6,7,10; constructed ca. 2002-2005).

CRHR Criterion 1: The buildings located at APN 1000-051-09 do not collectively or individually meet CRHR Criterion 1 for association with events that have made a significant contribution to the broad patterns of history and cultural heritage. The buildings were constructed between 1920 and 2005. By the time the earliest building was constructed in 1920, Chino Hills had long been established as an agricultural region. Research has yielded no information that the property was associated with any significant horse breeding or livestock operations, and it appears to be one of many similar properties established during the early- to mid-20th century. Research has yielded no information to suggest that the buildings located on APN 1000-051-09 are specifically associated with significant historical events important to Chino Hills, the State of California, or the United States. Therefore, the buildings located at APN 1000-051-09 are not collectively or individually eligible for the CRHR under Criterion 1.

CRHR Criterion 2: The buildings located at APN 1000-051-09 do not collectively or individually meet CRHR Criterion 2 for any direct associations with the productive lives of persons important in local, state, or national history. Research has yielded little information regarding current and former owners or tenants of the property and what information is available does not suggest that any persons of historical significance are specifically associated with the buildings. Therefore, the buildings located at APN 1000-051-09 are not collectively or individually eligible for the CRHR under Criterion 2.

CRHR Criterion 3: The buildings located at APN 1000-051-09 do not collectively or individually meet CRHR Criterion 3 for embodying the distinctive characteristics of a type, period, and method of construction, or as the work of an important creative individual, or as having high artistic value. The buildings that comprise APN-1000-051-09 were constructed in a range of styles including Minimal Traditional, vernacular, and utilitarian. These styles are common of agricultural and ranch properties from before this property as constructed and the styles have remained prevalent into the present. The buildings are essentially similar to many other buildings constructed in the early- to mid-20th century throughout California. Several of the buildings have been significantly modified due to continued maintenance, additions, or disrepair. While the architects and builders were not identified, these buildings are unlikely to be the work of a master. Therefore, the buildings located at APN 1000-051-09 are not collectively or individually eligible for the CRHR under Criterion 3.

CRHR Criterion 4: The buildings located at APN 1000-051-09 do not collectively or individually meet CRHR Criterion 4 since they are unlikely to yield information important to prehistory or history. It is unlikely that this property has the potential to broaden our understanding of 20th century agricultural practices or the development of Chino Hills, California, or the United States. Therefore, the buildings located at APN 1000-051-09 are not collectively or individually eligible for the CRHR under Criterion 4.

The buildings located at APN 1000-051-09 were evaluated for historical significance by applying the criteria of the CRHR using data gathered during the pedestrian survey and information acquired through historical research. By applying the CRHR criteria, it is determined that the buildings located at APN 1000-

051-09 are not collectively or individually eligible for inclusion in the CRHR. Therefore, the buildings located at APN 1000-051-09 are not considered historical resources for the purposes of CEQA.

Therefore, the Project would not result in a substantial adverse change to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines and impacts would be less than significant.

Mitigation Measures:

None required.

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact Analysis:

Impact C-2: Based upon the pedestrian survey resulting positive for cultural resources, the potential to encounter buried cultural materials during the grading of the Project exists. With the implementation of MM CUL-1 and MM CUL-2, impacts to archaeological resources would be reduced to a level of less than significant.

***i)* Record Searches and Site Survey**

Results of the records searches indicate that three previously conducted cultural resources studies (see **Table IV.C-1**, **Studies Conducted within the Project Area and within 0.25 Miles of the Project**) and no previously identified cultural resource are located within the Project area. Five previously conducted cultural resource studies (**Table IV.C-1**) and one previously identified cultural resource (see **Table IV.C-2, Previously Recorded Cultural Resources within 0.25 Miles of the Project Area**) are located within 0.25-mile of the Project area. Records search results are provided in Appendix E.

Table IV.C-1
Studies Conducted within the Project Area and within 0.25 Miles of the Project

Date	SCCIC No.	Author	Title	Relation to the Project Area
1974	SB-00230	San Bernardino County Museum Association	Archaeological Impact Report: Preliminary Report, Surface Survey, Saint Joseph's Hill of Hope.	Within Project area
1977	SB-02892	Drover Christopher	Draft EIR for Carbon Creek Ranch and TT9781 County of San Bernardino	Within 0.25 miles of the Project area
1980	SB-00954	Mabry, Theo N., and Ronald D. Douglas (editors)	Paleontological, Archaeological, and Historical Resources, Chino Hills, County of San Bernardino, California	Within 0.25 miles of the Project area
2007	SB-06097	URS Corporation	Cultural Resources Technical Report:	Within Project area

Table IV.C-1
Studies Conducted within the Project Area and within 0.25 Miles of the Project

Date	SCCIC No.	Author	Title	Relation to the Project Area
			Fire Mitigation, Chino Valley Independent Fire District.	
Unviable	SB-06098	Unavailable	Unavailable	Within 0.25 miles of the Project area
2010	SB-07123	Panich, Lee and John Holson	Supplemental Archaeological Survey Report, 66kV Transmission Lines Access Roads, Tehachapi Renewable Transmission Project Segments & and 8, Los Angeles and San Bernardino Counties, California.	Within 0.25 miles of the Project area
2011	SB-07083	Gust, Sherri and Molly Valasik	Paleontological and Cultural Resources of Chino Hills for the General Plan Update, City of Chino Hills, California	Within Project area
Unviable	SB-07203	Unavailable	Unavailable	Within 0.25 miles of the Project area
Source: Kleinfelder, 2021.				

Table IV.C-2
Previously Recorded Cultural Resources within 0.25 Miles of the Project Area

Primary No.	Trinomial	Type	Name/Description	Eligibility Status
P-36-022188	CA-SBR-014131H	Historic-period	Structural remains of a vacation house/cabins built by the Workmen's Circle and later operated as Camp Kinder Ring summer camp	Z Found ineligible for NR, CR or Local designation through survey evaluation
Source: Kleinfelder, 2021.				

1) Historical Maps

Historical maps were reviewed depicting features such as towns, roads, buildings, and creeks to provide additional information regarding the potential for the presence of historic-era cultural resources within the Project area. Historic maps are available at several online repositories, in particular the USGS's repository, the David Rumsey Map Collection, and the U.S. Department of the Interior Bureau of Land Management General Land Office (GLO) Records. The following sources were consulted during the historical map review:

- Anaheim, California. 1:62,500 topographic quadrangle (USGS 1896, 1898 [edited 1899], 1901, 1942).
- Township 2 South, Range 9 West, San Bernardino Meridian (GLO Plat 1865, 1875).
- Yorba Linda, California. 1:24,000 topographic quadrangle (USGS 1949 [edited 1957], 1950, 1964 [edited 1965]).

The 1865 and 1875 plats show the Project area in land labeled "Part of Rancho Santa Ana del Chino/ Lot No.38". No other details about the Project area are depicted (GLO Plat 1865, 1875).

The 1896 and 1898 USGS quadrangles depict the Project area in undeveloped land with lots of steep hills. A north-to-south-trending unnamed light-duty road extends from the south and terminates approximately 0.38 mile south of the Project area; part of the road overlaps with State Route 142. The Orange County border is approximately 0.80 mile southwest of the Project area and the Los Angeles County border is depicted approximately 0.70 mile west of the Project area. (USGS 1896, 1898 [edited 1899]).

In the 1901 USGS quadrangle, a northwest-to-southeast-trending unnamed, unimproved road bisects the Project area. This unimproved road leads to the unnamed light-duty road that overlaps State Route 142, approximately 0.18 mile southeast of the Project area. The county boundaries are still depicted in the same locations (USGS 1901).

The 1942 USGS quadrangle shows a northwest-to-southeast-trending intermittent stream intersecting the northwest corner of the Project area; part of the stream branches to the west within the northern end of the Project area. The northwest-to-southeast-trending unnamed, unimproved road that bisected the Project area is no longer shown. State Route 142 (SR 142) is still depicted as an unnamed light-duty road though structures are now shown along it. An east-to-west-trending unnamed light-duty road that is about 1-mile-long branches west off of SR 142, approximately 0.13 mile south of the Project area; five structures are located along this light-duty road. Carbon Canyon Mineral Springs is on the southeast side of State Route 142 and approximately 0.70 mile southeast of the Project area. The county boundaries are still depicted in the same locations (USGS 1942).

The 1949 and 1950 USGS quadrangles show most of the Project area as hilly, undeveloped land with several roads and structures. A northwest-to-southeast-trending unnamed secondary highway that mostly overlaps Canyon Hills Road's current location branches off Highway 142, approximately 0.43-mile northeast of the Project area; about 0.10 mile of this unnamed secondary highway overlaps the northeast corner of the Project area. An east-to-west-trending unnamed light-duty road branches off the unnamed secondary highway, loops across the northern end of the Project area, then redirects south into the eastern half of the Project area where it terminates. An intermittent stream runs parallel to and west of the unnamed secondary highway; part of the stream hugs the inside of the east end of the Project area

for about 0.25 mile, turns west and remains within the northern boundary for approximately 0.16 mile, and then continues west out of the Project area. Three structures are drawn within the Project area: one within the northeast corner of the Project area, northeast of the unnamed secondary highway; a second one in the north end of the Project area and just north of the light-duty road; and the third is near the middle of the Project area at the south end of the unnamed light-duty road. In the Hillcrest neighborhood and Canyon Hills Cottages current locations are an east-to-west-trending unnamed approximately 0.06 mile south of the Project area secondary highway and several light-duty roads and structures. An east-to-west-trending unnamed light-duty road is approximately 0.09 mile north of the Project area. The county boundaries are still depicted in the same locations. Carbon Canyon Mineral Springs is now located approximately 0.78 mile south of the Project area instead of 0.70 mile (USGS 1949 [edited 1957], 1950).

The 1964 USGS quadrangle still draws most of the Project area as hilly, undeveloped land with several roads and structures. The light-duty road that loops through the Project area is shown as an unimproved road; five structures and a water tank are depicted at the northern end of the unimproved road and three structures are at its terminus near the middle of the Project area. The northwest-to-southeast-trending unnamed secondary highway that overlaps the northeast corner of the Project area is also shown as an unimproved road. The intermittent stream that overlaps both the east and north sides of the Project area is in the same location. Hillcrest and Canyon Hills Cottages are shown with several more structures, unimproved roads, and a water tank, but no east-to-west-trending unnamed secondary highway. A neighborhood labeled Sleep Hollow is approximately 0.59 mile south of the Project area. The county boundaries are still shown in the same locations. Carbon Canyon Mineral Springs is no longer drawn on the map (USGS 1964 [photo revised 1965]).

2) Sacred Lands File (SLF)

On April 20, 2021, Kleinfelder sent a request to the NAHC for a SLF search and a Native American contact list for the Project. The NAHC responded on May 10, 2021, with a Native American contact list and stating that the SLF indicated that there are no sacred lands within the vicinity of the Project area. They provided a list of Native American contacts to outreach to for further details regarding the Project area. No further Native American coordination has been completed as it is assumed CEQA AB 52 tribal consultation will be conducted (as needed) by the lead state agency (The City of Chino Hills in this case) as required by the lead state agency. The NAHC Native American contacts list is provided in Appendix D of the Cultural Resources Evaluation.

On May 24, 2021, Kleinfelder sent a consultation letter to the Librarian and Genealogical Inquiries with the San Bernardino Historical and Pioneer Society in San Bernardino, California with a request for information regarding cultural resources located within or near the Project area. No response has been received to date. See Appendix E of the Cultural Resources Evaluation for the historical society consultation.

3) Site Survey

On July 8-9 and 12, 2021, Kleinfelder archaeologist, David Sosa, M.A., RPA, completed an intensive pedestrian survey of the Project area. The survey was completed using 10- to 15-meter-spaced transects. Close inspection was given to all exposed soils and cut banks for the presence of archaeological materials. The Project area was photographed using a high-resolution digital camera (see Appendix G, of the Cultural Resources Evaluation Survey Photographs) and field observations were captured in written notes. Locational data were collected with Environmental Systems Research Institute Arc Collector application

on Android. The Project area was hilly with steep angles but accessible by foot and 100 percent of the Project area was surveyed. A large white house was in the center of the Project area and seven historic-period buildings are located in the north-northeast of the Project area within APN-1000-051-09. Ground visibility was moderate. Soils ranged from a light tan loam in the south end, to light tan loam to dark gray sandy loam in the north end, to pale tan sandy loam in far northeast end north of Canyon Hills Drive. Vegetation consisted of low to medium grasses, oaks, brush, and eucalyptus trees.

i) Observed Resources and Evaluations

Kleinfelder identified two newly recorded cultural resources (one historical glass scatter; [DGS070821_1] and one historical refuse scatter [DGS070821_2]) and recorded one property with buildings that date between ca. 1920 and ca. 2005 (APN-1000-051-09 [Buildings 1-11]). The resources are summarized below. Refer to Appendix E (specifically refer to Appendix B, Figure 4 for resource location map, Appendix F for the newly recorded sites on DPR 523 forms, and Appendix G for survey photographs of the Cultural Resources Report).

ii) Cultural Resources Scatter

This cultural resource site consists of a refuse scatter measuring 25 feet (north/south) by 13 feet (east/west). The site is located on a slope near the top of a ridge behind the garage of a large white house located at the center of the Project area. The site is composed of 31 historical glass fragments varied in color including, 11 amethyst glass fragments, 13 aqua glass fragments, one cobalt glass fragment, two green glass fragments, two red glass fragments, and two brown glass fragments. One amethyst cup fragment with a handle was noted. Other components observed within the site are non-historic materials, including red brick, a concrete block, wood, and metal fragments. No maker's mark on the glass fragments were observed. The site is likely a single episode dumping dating back to the 1914 to 1945 era, as there is a fragment of a possible Tiara glass amber sandwich pattern of a coffee/tea cup with handle dating to the 1920's.

iii) Criteria Analysis of the Project Site

The site is not associated with events that have made a significant contribution to the broad patterns of the history and cultural heritage of the United States (Criterion 1); the site is not directly associated with the lives of persons significant to the nation's past (Criterion 2); this site does not embody distinctive characteristics of a type, period, region, or method of construction, or that represents the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction (Criterion 3); nor is there the potential for subsurface or additional data that could yield information important to the prehistory or history of the nation (Criterion 4).

The site consists of a refuse deposit that represent a possible single event, with no evidence of subsurface potential, dating back to the 1914 to 1945 era. As a result, this site is recommended not eligible under any criteria for listing on the CRHR.

This cultural resource consists of a historical refuse scatter that measures located in a natural drainage in a level area 310 feet southwest of the white house at the center of the Project area. Refuse includes white-ware sherds (one colored), one complete clear glass bottle with a "B4" makers mark, and a brown glass bottle fragment.

This cultural resource site consists of a refuse scatter measuring 5 feet (northeast/southwest) by 10 feet (northwest/southeast). The site is located in a natural drainage area in a level area at approximately 310 feet (94.4 meters) southwest towards the top of a ridge above of a large white house located at the center of the Project area. The site is composed of 5 small whiteware ceramics with a floral design, one brown glass bottle fragment and one complete clear glass bottle. The area exhibits evidence of rodent activity which could possibly indicate potential for a buried deposit. However, due to the number of materials found, a minimal probability to find subsurface artifacts could be expected. No maker's mark on the ceramic and glass fragments were observed. The site is likely a single episode dumping dating back to the 1914-1945 era, as there is a possible perfume Brockway Glass Company ("B" maker's mark) complete clear glass bottle dating back to the 1930's.

The site is not associated with events that have made a significant contribution to the broad patterns of the history and cultural heritage of the United States (Criterion 1); the site is not directly associated with the lives of persons significant to the nation's past (Criterion 2); this site does not embody distinctive characteristics of a type, period, region, or method of construction, or that represents the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction (Criterion 3); as the site exhibits evidence of rodent activity within the found resources, which could indicate possibility subsurface resources, the materials observed do not add additional data that could yield information important to the prehistory or history of the nation (Criterion 4).

The site consists of a refuse deposit that represent a possible single event, with evidence of subsurface potential, dating back to the 1914 to 1945 era. As a result, at this stage and with the surface materials observed this site is not recommended eligible under Criterion 4 or any of the other criteria for listing on the CRHR.

The cultural resource inventory of the 85-acre (APN 1000-051-19 and 1000-051-09) Project area included research and review of relevant, historic maps, records search results from the SCCIC, SLF results from the NAHC, and an intense pedestrian survey of the Project area. The result of these study and inventory efforts concluded with positive results for new resources. Kleinfelder recorded, evaluated, and provided recommendations for seven historic-period buildings located on APN-1000-051-09 and two historic archaeological refuse scatters (DGS070821_1 and DGS070821_2). No resources were collected. The buildings located on APN-1000-059-09 consist of seven historic-period buildings and historic archaeological refuse scatter sites DGS070821_1 and DGS070821_2 was evaluated using CRHR eligibility criteria to determine whether they constitute eligible historical resources under CRHR as required under CEQA. Kleinfelder concluded, the seven historic-period buildings and historical refuse scatter sites DGS070821_1 and DGS070821_2 are recommended not eligible under any criteria for listing on the CRHR. Based the surficial review of archaeological materials present this site is recommended not eligible for CRHR under any criteria. Should additional information be identified during subsurface excavation for the Project, such findings would require additional review and consideration for CRHR eligibility.

The Cultural Resources Evaluation resulted in the identification of seven historic-period buildings located on APN-1000-051-09 and two historical refuse scatters DGS070821_1 and DGS070821_2. The newly identified historic-period buildings and both refuse scatters (DGS070821_1 and DGS070821_2) lack significant subsurface deposits and were determined to retain no further research potential beyond recording their locations and attributes, which has been completed. However, based upon the pedestrian survey resulting positive for cultural resources, the potential to encounter buried cultural materials during the grading of the Project area is feasible. With the implementation of **MM CUL-1** and **MM CUL-2**, impacts to archaeological resources would be reduced to a level of less than significant.

Mitigation Measures:

The following mitigation measures are to be adopted and implemented by the Project proponent and the lead agency to reduce any potential disruption to cultural resources:

MM CUL-1: Prior to construction of the proposed Project, a qualified archaeological monitor with relevant San Bernardino County experience and who shall work directly under the direction of a Secretary of the Interior's (SOI) professional archaeologist, and subject to the City's review and concurrence, shall be retained by the Project proponent. In the event previously unidentified buried cultural resources are discovered and cannot be avoided, the SOI archaeologist will develop a plan to avoid and/or mitigate the resource, and protocol for monitoring areas identified as sensitive. Mitigation plans and/or monitoring protocols will be subject to review and approval by the City prior to implementation.

MM CUL-2: The Project archaeologist, may, at their discretion, terminate monitoring if (and only if) no subsurface cultural resources have been detected. If previously unidentified buried cultural resource artifacts are uncovered during ground disturbance activities the archaeological monitor shall have the authority to re-direct grading activities to other location within the Project to examine the resources and possibly conduct additional studies based on plans or protocols prepared by the SOI archaeologist and approved by the City. The plan shall include a research design, testing and/or mitigation approach, final reporting and curation agreement. Should any prehistoric or tribal cultural resources be identified within the Project, Native American consulting parties shall be contacted regarding the disposition and treatment of the resource(s) in accordance with Mitigation Measure **MM TCR-1** in **Section IV. H, Tribal Cultural Resources** of this Draft Focused EIR.

Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Impact Analysis:

Impact C-3: The development of the Project would not disturb any human remains. With the implementation of MM CUL-3, impacts to human remains would be reduced to a level of less than significant.

As discussed in **Section VII, Effects Found Not to be Significant** and in the Initial Study (Appendix A of this Draft Focused EIR), the Project Site would not disturb any human remains. However, in the event that human remains are encountered unexpectedly during grading or construction activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If human remains of Native American origin are discovered during Project construction, compliance with State laws, which fall within the jurisdiction of the Native American Heritage Commission (PRC Section 5097), relating to the disposition of Native American burials would be required. Considering that compliance with regulatory standards described above would ensure appropriate treatment of any human remains unexpectedly encountered during grading activities. With the implementation Mitigation Measure **MM CUL-3**, impacts to human remains would be reduced to a level of less than significant.

Mitigation Measures:

The following mitigation measures are to be adopted and implemented by the Project proponent and the lead agency to reduce any potential disruption to cultural resources:

MM CUL-3: In the event of the unanticipated discovery of human remains, work in the immediate vicinity of the find shall stop and no further disturbance shall occur until the San Bernardino County Coroner has made a determination of origin and disposition pursuant to CEQA, Section 15064.5(e), State of California Health and Safety Code Section 7050.5 and PRC Section 5097.98. The County Coroner shall be notified of the find immediately. If the Coroner determines that the human remains are of Native American in origin, then the Corner shall notify the NAHC, who is responsible for identifying and notifying the Native American most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and make recommendations regarding the treatment and disposition of human remains and items associated with Native American burials. If an agreement regarding disposition of human remains between the MLD and the Landowner or a MLD cannot be identified the landowner shall comply with the disposition and documentation required as defined by PCR 5097.98 Section (e).

4. CUMULATIVE IMPACTS

As indicated in **Section III, Environmental Setting**, of this Draft Focused EIR, the nearest Related Projects include Nos. 7 and 17 which are residential uses located on Carbon Canyon Road. None of the Related Projects would share adjacent street frontages with the Project Site.

The geographic scope of cultural resources for historic analysis is the 1.5 mile radius of the Project Site, which adequately captures the past, present and probable future projects that would potentially contribute to cumulative historic resource impacts. Cumulative impacts on historic resources evaluate whether impacts of the Project and related projects, when taken as a whole, substantially diminish the number of extant resources within the same or similar context or property type. As discussed above, the existing development is not currently designated a landmark at the national, state, or local levels, nor has it been identified or evaluated as significant in any previous historic resource surveys. The buildings are not eligible for listing in the National or California Registers due to a lack of historical significance and a lack of architectural distinction. Additionally, the buildings do not appear to contribute to a potential historic district. As such, the Project would not result in a significant impact to any historic resource. Although it is not known at this time if future development of the Related Projects would involve historic resources, it is anticipated that if historic resources are potentially affected, the Related Projects would be subject to the requirements of CEQA and City of Chino Hills historic resource protection ordinances. It is further anticipated that the effects of cumulative development on historic resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Therefore, the Project's contribution to cumulative impacts would not be cumulatively considerable and cumulative impacts would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measures **MM CUL-1** through **MM CUL-3** Project impacts related to cultural resources would be reduced to a level of less than significant.

Cumulative impacts related to cultural resources would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
D. GEOLOGY/SOILS

1. INTRODUCTION

This section of the Focused EIR evaluates potential existing geologic and soils hazards of the Project, including the potential for the Project to cause direct or indirect impacts associated with existing environmental conditions that could cause, in whole or in part, fault rupture, ground shaking, liquefaction of soils, expansion of soils, and/or landslide. This section is based on information provided in Appendix F of this Draft Focused EIR, which includes *Geotechnical Investigation Proposed Paradise Ranch Residential Development West of Canyon Hills Road and South of Esquiline and Alpine Drives City of Chino Hills, California, prepared by Leighton And Associates Inc., July 15, 2019.* This section also evaluates the potential for the Project to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This component of the analysis is in part based on information provided in Appendix E of this Draft Focused EIR, which includes *Cultural Resources Identification and Evaluation Report for the Chino Hills Project, Chino Hills, San Bernardino County, California, prepared by Kleinfelder, November 24, 2021.*

2. ENVIRONMENTAL SETTING

A. Site Description

The Paradise Ranch development is located west of Canyon Hills Road and south of Esquilime and Alpine Drives in the City of Chino Hills. The Project Site is located in the eastern Puente Hills. The proposed residential development is situated in the eastern portion of the site, which is characterized by a northeast-facing hillside and a relatively flat terrace located at the base of the hill. To the north and northeast, a slope gently descends from the terrace toward on adjacent natural drainage. The ridgelines along the hillside are separated by southwest-northeast trending drainages.

Elevations within the area planned for development range from a low of about 955 feet above mean sea level (msl) in the eastern edge of the site to a high of about 1,160 feet msl in the southern portion of the site where the top of a design cut slope is planned.

B. Historic Context

Based on review of aerial photographs, the area has been historically used as open space and a ranch. Previous development onsite includes residences and ranching structures in the northeastern corner of the property, a residence at the top pf the ridge in the central portion of the site, a paved road from the entrance at the eastern edge of the site to the residence at the top of the ride, and other unimproved roads in various areas. In addition, powerlines and poles are present in the southern area.

C. Geologic Setting

The Project Site is located within the eastern Puente Hills. The Puente Hills are located where the Peninsular Ranges geomorphic province interacts with the Transverse Ranges geomorphic province. This is an area where the lateral strain of the Elsinore Fault Zone in the Peninsular Ranges to the south is

accommodated by the faults and folds bounding and within the east-west trending Puente Hills to the north.

The Puente Hills are a structural block, north of the Whittier fault and southwest of the Chino fault, that uplift and emerge in the Pleistocene. This uplift is a result of the north-south compression that has been accommodated by the Puente Hills blind thrust fault. The relief of the Puente Hills is a result of a history of uplift and erosion. During the Quaternary uplift, erosion rates of the streams in the Puente Hills increased, and gullies were incised in existing broad canyons. These gullies decrease in depth upstream, and in general, streams that flow towards the southwest are longer than those flowing to the north and northeast. This pattern of gully depth and the asymmetrical pattern of the older broad canyons indicates that the Puente Hills block tilted towards the northeast during Quaternary uplift.

The dominant structural features in the eastern Puente Hills region are the Whittier fault and the Chino fault. This area of Southern California has and is continuously experiencing major crustal disturbance as the site is located relatively near the boundary between the Pacific and North American Plates. The bulk of the generally right-lateral transform movement between the two major tectonic plates occurs along the San Andreas fault and associated faults such as the Elsinore and San Jacinto faults.

i) Earth Units

Geologic units present onsite include relatively young surficial deposits and bedrock.

1) Surficial Units

Mapped surficial units include artificial fill, colluvium, and older alluvium.

Undocumented Artificial fill: Relatively thin amounts (2 to 3 feet thick) of artificial fill is present in the eastern portion of the site associated with past ranch uses of the property. Artificial fill, where observed, generally consisted of silty sand and sandy to silty clay that is loose and compressible and unsuitable to support structures or additional fill. A gravel filled leach field was encountered at Boring B-4.

Colluvium: Colluvium is a soil overburden that has accumulated in hillside portions of the site mappable to a thickness of four feet or greater by a combination of deep bedrock weathering and slope wash. Colluvium encountered onsite consisted mailing of dark-brown, porous, sandy to clayey silts and silty clays. It was commonly present at the toes of natural slopes, in reentrants, and along the margins of drainage channels.

Older Alluvium: Pleistocene-age alluvial soils were mapped onsite and appear to be uplifted remnants of older alluvial valley deposits adjacent modern drainages. The older alluvium generally consists of silty sand to clay with sandy silt and sandy clay. Where observed in the borings, the unit was dark brown, and grayish brown, moist to wet, and generally firm to dense.

2) Bedrock Units

The bedrock unit mapped onsite was classified as the Puente Formation Soquel Member.

Puente Formation, Soquel Member: The late Miocene-age Soquel Member of the Puente Formation has been mapped across the majority of the hillside portions of the site. The predominate lithologic unit of Soquel member observed onsite were interbedded fine sandstone, claystone, siltstone, and shales. This

unit was typically brown in the upper portions of the borings and dark gray (unoxidized) in the lower portions of our deeper borings. The bedrock was observed to be moist, dense, and moderately cemented.

ii) Geologic Structure

The Soquel member bedrock underlying the proposed development site was measured to generally dip to the southwest and to the southeast at inclinations of about 3 to 25 degrees, except in the southeastern portion of the site where bedding orientations were variable. In BA-3 and BA-3A, bedding orientations dipped towards the north at inclinations of roughly 9 to 22 degrees in the upper 30 to 55 feet, and towards the west at inclinations of approximately 5 to 22 degrees below. In several areas, bedrock bedding planes were well developed including laminated claystones and shales, and bedding orientations were easily discerned. The Soquel member bedrock was slightly fractured in many areas and severely fractured in localized zones observed in borings in the southeastern portion of the site.

iii) Surface and Groundwater

Surface water was not observed onsite. Groundwater was encountered in the hollow-stem auger boring extend to depths ranging from 22 to 33 feet below ground surface within older alluvium in the eastern portion of the Project Site, which is at a similar elevation as the stream bed to the east of the site. The ground water elevation generally coincides with the bottom elevation of the natural drainage adjacent to the northwest. Historic ground water data for the area is very limited. The subsurface data was collected in spring of relatively wet year. It is probable that groundwater levels fluctuate seasonally based on rainfall amounts, urban runoff and other factors.

Groundwater was generally absent in the hillside portion of the Project Site, although perched water may be present locally.

iv) Faulting and Seismicity

Based on criteria established by the CGS, faults may be categorized as active, potentially active, or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that show evidence of most recent surface displacement within the last 1.6 million years (Quaternary age). Faults showing no evidence of surface displacement within the last 1.6 million years are considered inactive for most purposes, with the exception of design of some critical structures.

Buried thrust faults are faults without a surface expression but are a significant source of seismic activity. They are typically broadly defined based on the analysis of seismic wave recordings of hundreds of small and large earthquakes in the Southern California area. Due to the buried nature of these thrust faults, their existence is usually not known until they produce an earthquake. The risk for surface rupture potential of these buries thrust faults is low. However, the seismic risk of these buried thrust faults is not well established. Therefore, the potential for surface rupture from these faults cannot be precluded.

The primary geological hazard at the Project Site is moderate to strong ground motion caused by an earthquake on any of the local or regional faults.

v) Ground Rupture

Ground rupture is defined as surface displacement that occurs along the surface trace and not in a preliminary fault rupture study area of the causative fault during an earthquake. Based on research of

available literature and results of the Project Site reconnaissance, no known active or potentially active faults underlie the Project Site. In addition, the Project Site is not located within an Alquist-Priolo Earthquake Fault Zone. As discussed in the Geotechnical Investigation, based on these considerations, the potential for surface ground rupture at the Project Site is considered low.

vi) Slope Stability/Landslides

A landslide area, as identified by the State of California, is an area with the potential for earthquake-induced rock falls, slope failure, and debris flow. The Project Site is located within a hillside area and is located in a Landslide Zone.[1] Although the Project is also located in a Generally Susceptible Area for landslides,[2] natural slope stability within the Soquel member is generally moderate to poor on the Project Site. Bedrock landslides on natural slopes are present in the region and appear to be the result of over steepened slopes or failures along planes of weakness, such as bedding planes, faults or fractures. Surficial slumps during heavy rains are common, with mud or debris flows occurring on steeper slopes.

Evidence of landslides were not observed during aerial review of the Project Site, surficial geologic mapping and down-hole logging of large- diameter boring during the study.

vii) Liquefaction, Lateral Spreading, and Seismic-Induced Settlement

Liquefaction is the phenomenon in which saturated, silty to cohesionless soils below the groundwater table temporarily lose strength during strong ground shaking as a consequence of increased pore pressure during conditions such as those caused by earthquakes. The vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity. Potentially liquefiable soils must be saturated or nearly saturated to be susceptible to liquefaction. Liquefaction potential decreases with increasing grain size and clay and gravel content but increases as the ground acceleration and duration of shaking increase. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and undergo lateral spreading.

The encountered Puente Formation bedrock is not expected to be susceptible to liquefaction.

viii) Expansive Soils

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly, and can cause structural damage to buildings and infrastructure. According to the Geotechnical Investigation, the onsite soils are in the low expansion range.

ix) Paleontological Resources

A cultural resource records search was conducted by the South Central Coast Information Center (SCCIC) at California State University (CSU), Fullerton in Fullerton, California of the California Historical Resources Information System (CHRIS) on April 21, 2021 (SCCIC File No.: 22378.8590). The records search encompassed the Project area and a 0.25-mile buffer radius. The purpose of the record search was to

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[1] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

[2] *Chino Hills General Plan, Chapter 5 Safety Element, Figure 5-5, Landslide Susceptibility, accessed June 2021.*

identify if any prehistoric and/or historic-period cultural resources and studies had been previously documented in the Project area and/or the surrounding 0.25-mile radius in order to better understand the archaeological sensitivity of the area. This search also included an examination of historical maps of the area. The California Points of Historical Interest, the California Historical Landmarks, the CRHR, the NRHP, and the California Inventory of Historic Resources listings were also reviewed to determine if there were any resources listed or determined to be eligible for CRHR, NRHP, or local listing within the Project area.

D. Regulatory Setting

i) Federal Regulations

1) Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the Earthquake Hazards Reduction Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was substantially amended by the NEHRP Reauthorization Act of 2004 (Public Law 108-360).

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide local planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which a proposed project would be required to adhere.

2) National Pollutant Discharge Elimination System (NPDES)

The NPDES Program has been responsible for substantial improvements to our nation and state water quality since 1972. The NPDES permit sets erosion control standards and requires implementation of nonpoint source control of surface drainage through the application of a number of Best Management Practices (BMPs). NPDES permits are required by Section 402 of the Clean Water Act[3].

3) Society for Vertebrate Paleontology Standard Guidelines

The Society for Vertebrate Paleontology (SVP) has established standard guidelines[4] that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. The Paleontological Resources Preservation Act (PRPA) of 2009 calls for uniform policies and standards that apply to fossils on all federal public lands. All federal land

[3] *https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system December 28, 2021.*

[4] *Society of Vertebrate Paleontology, Standard procedures for the assessment and mitigation of adverse impacts to paleontologicalresources,2010,http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_Mitigation_Guidelines.aspx Accessed December 28, 2021.*

management agencies are required to develop regulations that satisfy the stipulations of the PRPA. As defined by the SVP[5], significant nonrenewable paleontological resources are:

> *"Fossils and fossiliferous deposits here are restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments."*

As defined by the SVP,[6] significant fossiliferous deposits are:

> *"A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present]."*

Based on the significance definitions of the SVP[7], all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

ii) State Regulations

1) Alquist-Priolo Earthquake Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) was signed into law December 22, 1972 (revised in 1994) and codified into State law in the Public Resources Code as Division 2, Chapter 7.5 to address hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating development near active faults. As required by the Act, the State has delineated Earthquake Fault Zones (formerly Special Studies Zones) along known active faults in California, which vary in width around the fault trace from about 200 to 500 feet on either side of the fault trace. Cities and counties affected by the zones must regulate certain development projects within the zones. The State Geologist is also required to issue appropriate maps to assist cities and counties in planning, zoning, and building regulation functions. Local agencies enforce the Alquist-Priolo Earthquake Fault Zoning Act in the development permit process, where applicable, and may be

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[5] *Society of Vertebrate Paleontology, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines, Society of Vertebrate Paleontology News Bulletin 163:22-27, 1995.*

[6] *Society of Vertebrate Paleontology, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources.*

[7] *Society of Vertebrate Paleontology, Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources.*

more restrictive than State law requires. According to the Alquist-Priolo Earthquake Fault Zoning Act, before a project that is within an Alquist-Priolo Earthquake Fault Zone can be permitted, cities and counties shall require a geologic investigation, prepared by a licensed geologist, to demonstrate that buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back a distance to be established by a California Certified Engineering Geologist. Although setback distances may vary, a minimum 50-foot setback is typically required.

2) Seismic Hazards Mapping Act

In order to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, the State of California passed the Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690-2699.6). Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate "seismic hazard zones." Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of their project sites have been investigated and appropriate mitigation measures, if any, have been incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plans and to encourage the adaptation of land use management policies and regulations to reduce and mitigate seismic hazards to protect public health and safety. Under PRC Section 2697, cities and counties must require, prior to the approval of a project located in a seismic hazard zone, submission of a geotechnical report defining and delineating any seismic hazard.

3) California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or those standards are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2019 edition of the CBC is based on the 2018 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC was published by the California Building Standards Commission on July 1, 2019, and became effective January 1, 2020. Every three years, the State adopts new codes (known collectively as the California Building Standards Code) to establish uniform standards for the construction and maintenance of buildings, electrical systems, plumbing systems, mechanical systems, and fire and life safety systems. Sections 17922, 17958 and 18941.5 of the California Health and Safety Code require that the latest edition of the California Building Standards Code apply to local construction 180 days after publication. The significant changes to Title 24 in the 2019 edition can be found at California Department of General Services website[8].

[8] https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo/ *Accessed December 28, 2021.*

4) California Division of Oil, Gas, and Geothermal Resources (CalGEM)

CalGEM regulates production of oil and gas, as well as geothermal resources, within the State of California. CalGEM requirements in preparation of environmental documents under CEQA are defined in CCR, Title14, Division 2, Chapter 2. Staff also assists operators in avoiding or reducing environmental impacts from the development of oil, gas, and geothermal resources in California, including subsidence. PRC Sections 3315, et seq. CalGEM regulations, which are defined in CCR, Title 14, Division 2, Chapter 4, include well design and construction standards, surface production equipment and pipeline requirements, and well abandonment procedures and guidelines to ensure effectiveness in preventing migration of oil and gas from a producing zone to shallower zones, including potable groundwater zones, as well as subsidence.

iii) Local Regulations

1) City of Chino Hills General Plan

The City of Chino Hills General Plan adopted February 2015 (City of Chino Hills, 2021) contains a series of goals, policies and actions regarding the treatment of cultural and paleontological resources during undertakings projects within the city. The City's General Plan under Chapter 4. Conservation Element on section E. Conservation Element Issues, provides background and specific information on the potential for finding paleontological resources within the City.

The following goals, policies and actions supporting the protection and management of paleontological resources are reproduced below:

Policy CN-2.2: Protect Chino Hills' paleontological resources.

- **Action CN-2.2.1:** Require appropriate paleontological surveys as part of the environmental review process where paleontological resources may be present.
- **Action CN-2.2.2:** Where paleontological resources are found during development activities, require on-site inspections by a qualified paleontologist during grading activities where paleontological resources may be present.
- **Action CN-2.2.3:** Require identified paleontological materials to be preserved, restored, cataloged, and/or transmitted to the appropriate repository or as otherwise directed by a qualified professional paleontologist.

2) City of Chino Hills General Plan Safety Element

The City's General Plan Safety Element addresses the natural and human-made hazards affecting the City of Chino Hills (City). These include seismic, geologic, flood and inundation, fire, and hazardous materials. The Safety Element also provides maps of designated areas within the City that are considered susceptible to earthquake-induced hazards, such as fault rupture and liquefaction.

3) City of Chino Hills Municipal Code

Chapter 15 of the City of Chino Hills Municipal Code (CHMC) contains the City's Building and Construction Code, which incorporates by reference the California Building Code (CBC), with City amendments for additional requirements. Chino Hills Department of Building & Safety is responsible for implementing the

provisions of the CHMC. To that end, Chino Hills Department of Building & Safety issues building and grading permits for construction projects. Building permits are required for any building or structure that is erected, constructed, enlarged, altered, repaired, moved, improved, removed, converted, or demolished. Grading permits are required for all grading projects other than those specifically exempted by the CHMC. Chino Hills Department of Building & Safety has the authority to withhold building permit issuance if a project cannot mitigate potential hazards to the project or which are associated with the project. Throughout the permitting, design, and construction phases of a building project, Chino Hills Department of Building & Safety engineers and inspectors confirm that the requirements of the CHMC pertaining specifically to geoseismic and soils conditions are being implemented by project architects, engineers, and contractors.

The function of the City's Building Code is to protect life safety and ensure compliance with the CHMC. Chapters 15 and 16 addresses numerous topics, including earthwork and grading activities, import and export of soils, erosion and drainage control, and general construction requirements that address flood and mudflow protection, landslides, and unstable soils. Additionally, the CHMC includes specific requirements addressing seismic design, grading, foundation design, geologic investigations and reports, soil and rock testing, and groundwater.

Specifically, CHMC Chapter 16.52.030 requires that Quality Control Engineers are "responsible for inspection of the work in progress to assure compliance with the conditions of approval which may include, but are not limited to slope ratio, slope height, slope location, areas of land disturbance and/or set provisions regarding archeology, paleontology, landscaping, erosion control, protection of native plants and animals, or any other conditions of approval which will control or impact grading. The quality control engineer shall *report* to and file *reports* after each inspection or (if continuous inspections are necessary) weekly with the Building Official as required by the Building Official."

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Threshold of Significance

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to geology and soils if it would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology 30 Special Publication 42.
   ii. Strong seismic ground shaking.
   iii. Seismic-related ground failure, including liquefaction.
   iv. Landslides.

b) Result in substantial soil erosion or the loss of topsoil;

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

d) Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;[9]

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater;

f) Directly or indirectly destroy a unique paleontological resource or site of unique geologic feature.

B. Methodology

i) Geology and Soils

The analysis of impacts associated with geology and soils is based largely on the Geotechnical Investigation prepared for the Project by Leighton and Associates, Inc. on July 15, 2019, included in Appendix F, of this Draft Focused EIR. As discussed above, information, conclusions, and recommendations in the report was based on field exploration on the Project Site (i.e., exploratory soil borings) with laboratory testing to determine the characteristics of the subsurface conditions at the Project Site, and records review of prior geotechnical investigations. The Geotechnical Investigation evaluated the underlying geologic and soil conditions to determine the potential for the Project to directly or indirectly cause hazardous conditions and identified preliminary foundation requirements needed to ensure that new building construction is safe. Site borings were drilled at various locations across the Project Site to ensure coverage across the entire Project Site and evaluate conditions at all locations. The Geotechnical Investigation provides sufficient detail to determine whether the Project Site is suitable for the intended use and whether more detailed studies are required to address specific geological issues. The Geotechnical Investigation also identifies considerations to be taken into account in the design of building foundations. Based on the ground conditions and building design, the Final Geotechnical Report will include specific recommendations for site preparation, excavation, foundation design and shoring/retaining wall specifications. The Project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the Project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

ii) Paleontological Resources

A cultural resource records search was conducted by the South Central Coast Information Center (SCCIC) at California State University (CSU), Fullerton in Fullerton, California of the California Historical Resources Information System (CHRIS) on April 21, 2021 (SCCIC File No.: 22378.8590). The records search encompassed the Project area and a 0.25-mile buffer radius. The purpose of the record search was to identify if any prehistoric and/or historic-period cultural resources and studies had been previously documented in the Project area and/or the surrounding 0.25-mile radius in order to better understand the archaeological sensitivity of the area. This search also included an examination of historical maps of the area. The California Points of Historical Interest, the California Historical Landmarks, the CRHR, the NRHP, and the California Inventory of Historic Resources listings were also reviewed to determine if there were any resources listed or determined to be eligible for CRHR, NRHP, or local listing within the Project area.

[9] *The California Building Code (CBC), based on the International Building Code and the now defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.*

C. Project Impacts and Mitigation Measures

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology 30 Special Publication 42?

Impact Analysis:

Impact D-1: The Project Site is not located within a designated Alquist-Priolo Earthquake Fault Zone. The Project Site is not located within a City-designated Fault Rupture Study Area. No faults are known to occur within the Project Site. Therefore, the Project would have a less than significant impact.

As discussed in **Section VII, Effects Found Not to be Significant** and in the Initial Study (Appendix A of this Draft Focused EIR), numerous active and potentially active faults with surface expressions (fault traces) have been mapped adjacent to the City.[10] Active earthquake faults are faults where surface rupture has occurred within the last 11,000 years. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazards of surface faulting and fault rupture to built structures. Surface rupture of a fault generally occurs within 50 feet of an active fault line.

The Project Site is not located within a designated Alquist-Priolo Earthquake Fault Zone.[11] According to the California Geological Society, the nearest Earthquake Fault Zone is the Whitter Fault Zone, an approximately 25-mile long zone running along the Chino Hills mountain range, located approximately 3.91 miles to the west of the Project Site.[12] The Chino Hills Fault is located 4.2 miles east of the Project Site. The Project Site is not located within a City-designated Fault Rupture Study Area.[13] No faults are known to occur within the Project Site. Thus, the potential for fault rupture at the Project Site would be low. Furthermore, the Project would be required to comply with applicable State and local building and seismic codes. Final design-level soils and geological reports would be submitted to the City of Chino Hills Department of Building and Safety for review and approval as part of the standard building permit submittal package prior to Project construction. Conformance with current Building Code requirements and site-specific design recommendations in the Geotechnical Investigation would minimize the potential for people on the Project Site to sustain loss, injury, or death as a result of fault rupture. Accordingly, impacts related to fault rupture be less than significant and no mitigation measures would be required.

Mitigation Measures:

None required.

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[10] *Chino Hills General Plan, Chapter 5 Safety Element, Figure 5-1, Active and Potentially Active Faults Affecting Chino Hills, accessed June 2021.*

[11] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

[12] *California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: June 2021.*

[13] *California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: June 2021.*

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
ii. Strong seismic ground shaking?

Impact Analysis:

Impact D-2: Although the Project is located in the seismically active region of Southern California, the Project would be required to comply with the City Building Code, and the California Building Code seismic design force standards. Therefore, the Project would have a less than significant impact.

The Project Site is located in the seismically active region of Southern California, and therefore, is susceptible to ground shaking during a seismic event. There are several active faults in the region, including the Whitter Fault Zone which is located west of the Project Site and the Chino Hills Fault Zone which is located east of the Project Site. However, the Project would be subject to the California Building Code seismic design force standards. In addition, the Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Compliance with these standards would ensure that the residences and associated improvements are designed and constructed to withstand expected seismic activity and associated potential hazards, including strong seismic ground shaking, thereby minimizing risk to the public and property. Therefore, this impact would be less than significant, and no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
iii. Seismic-related ground failure, including liquefaction?

Impact Analysis:

Impact D-3: The encountered Puente Formation bedrock is not expected to be susceptible to liquefaction. Application of appropriate engineering controls and compliance with applicable code and regulatory requirements for construction activities on site as well as foundation design would preclude adverse effects related to liquefaction at the Project Site and protect surrounding developments. Therefore, the Project would have a less than significant impact.

Liquefaction describes a phenomenon where cyclic stresses, which are produced by earthquake-induced ground motions, create excess pore pressures in cohesionless soils. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation and settlement of loose sediments, ground oscillation, flow failure, loss of bearing strength, ground fissuring, and sand boils, and other damaging deformations. This phenomenon occurs only below the water table, but after liquefaction has developed, it can propagate upward into overlying, non-saturated soils as excess pore water escapes. The possibility of liquefaction occurring at a given site is dependent upon the occurrence of a significant earthquake in the vicinity, sufficient groundwater to cause high pore pressures, and on the grain size, relative density, and confining pressures of the soil at the site.

Groundwater was encountered in the hollow-stem auger borings at depths ranging from 22 to 33 feet below ground surface (bgs) within older alluvium in the eastern portion go the Project Site. Relatively loose sands and firm sandy clay soils were generally encountered in Borings HS-1 through HS-3 at depths ranging from 20 feet to 40 feet. As a result, several soil layers within the alluvial deposits encountered in the boring would be susceptible to liquefaction. The potentially liquefiable soils are generally encountered between 25 and 40 feet bgs.

Based on the upper 30 to 40 feet of material (native soil plus compacted fill) being non-liquefiable, the potential for surface manifestations of liquefaction as bearing failures and sand boils is concerned low.

The encountered Puente Formation bedrock is not expected to be susceptible to liquefaction.

Application of appropriate engineering controls and compliance with applicable code and regulatory requirements for construction activities on site as well as foundation design would preclude adverse effects related to liquefaction at the Project Site and protect surrounding developments. Therefore liquefaction impacts would be less than significant.

Seismically-induced settlement or compaction of dry or moist, cohesionless soils can result from earthquake ground motion. Such settlements are typically most damaging when the settlements are differential in nature across the length of structures. Some seismically-induced settlement of structures within the Project Site are expected as a result of strong ground shaking. In addition, onsite alluvial soils are susceptible to significant seismic settlement However, after overexcavation of the alluvial soils as recommended in the Geotechnical Investigation, total seismic settlement is expected to be 1.5 inch or less. Differential settlement resulting from seismic would be reduced. Therefore, the Project would not exacerbate existing environmental conditions related to seismic-induced settlement or collapse.

Mitigation Measures:

None required.

Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
iv. Landslides?

Impact Analysis:

Impact D-4: Evidence of landslides were not observed during aerial review of the Project Site, surficial geologic mapping and down-hole logging of large- diameter boring during the study. The Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Therefore, the Project would have a less than significant impact.

The Project Site is located within a hillside area, and is located in a Landslide Zone.[14] Although the Project is also located in a Generally Susceptible Area for landslides,[15] evidence of landslides were not observed during aerial review of the Project Site, surficial geologic mapping and down-hole logging of large-diameter boring during the study. The proposed Project would not be significantly impacted by hazards

[14] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

[15] *Chino Hills General Plan, Chapter 5 Safety Element, Figure 5-5, Landslide Susceptibility, accessed June 2021.*

from landslides, settlement, or slippage and proposed grading would not adversely impact the stability of the adjacent properties.[16]

The proposed residential development is situated in the eastern portion of the Project Site, which is characterized by a northeast-facing hillside and a relatively flat terrace located at the base of the hill. To the north and northeast, a slope gently descends from the terrace toward on adjacent natural drainage. As the residential area is located on a relatively flat terrace at the base of the hill, the residential area would be less susceptible to landslides. Although the Project would not be significantly impacted by hazards from landslides, settlement, or slippage and proposed grading would not adversely impact the stability of the adjacent properties, the Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, the Project would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. With compliance the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, impacts under the Project would be less than significant with respect to landslides, and no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project result in substantial soil erosion or the loss of topsoil?

Impact Analysis:

Impact D-5: The potential for erosion on the fill slopes or other graded areas is expected to be moderate. Compliance with City Building Code standards and geotechnical earthwork and grading design recommendations in the Geotechnical Investigation would ensure that the residences and associated improvements are designed and constructed to withstand erosion and the loss of topsoil. Impacts would be less than significant.

The Project Site is located within a hillside area, and is located in a Landslide Zone.[17] Due to the temporary nature of the soil exposure during the grading and excavation processes, substantial erosion is unlikely to occur. The potential for erosion on the fill slopes or other graded areas is expected to be moderate. Furthermore, during this period, the Project would be required to prevent the transport of sediments from the Project Site by stormwater runoff and winds through the use of appropriate Best Management Practices (BMPs). Regional Water Quality Control Board regulations pertaining to surface water runoff and water quality (which would require BMPs) for construction projects would prevent significant impacts related to erosion and other geological impacts.

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[16] *Geotechnical Investigation Proposed Paradise Ranch Residential Development West of Canyon Hills Road and South of Esquiline and Alpine Drives City of Chino Hills, California, prepared by Leighton And Associates Inc., July 15, 2019.*

[17] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

Provisions for surface drainage, terrace drains, slope planting, and other measures in accordance with City of Chino Hills and California Building Code (CBC) guidelines will provide long term protection. Recommendations in the Geotechnical Investigation also include slope protection polymers, straw waddles and/or other jute mesh should be considered to limit the amount of erosion on slopes or graded areas subject to erosion until landscaping and other permanent erosion protection measures are fully placed. Compliance with these standards and geotechnical earthwork and grading design recommendations in the Geotechnical Investigation would ensure that the residences and associated improvements are designed and constructed to withstand erosion and the loss of topsoil. Impacts would be less than significant, and no mitigation measures would be required.

Operation of the Project would not have any impact with regard to soil erosion or loss of topsoil as the entire Project Site would be developed and there is no native topsoil at this previously disturbed and developed Project Site. Therefore, impacts under the Project would be less than significant with respect to substantial soil erosion or the loss of topsoil; no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Impact Analysis:

Impact D-6: The Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Compliance with these standards and the recommendations in the Geotechnical Investigation would ensure development of the Project would be safe against hazards from landslides, settlement or slippage, liquefaction, lateral spreading, or subsidence. Impacts would be less than significant.

***i)* Landslides**

As discussed above, evidence of landslides was not observed during aerial review of the Project Site, surficial geologic mapping and down-hole logging of large- diameter boring during the study. The Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Compliance with these standards would ensure that the residences and associated improvements are designed and constructed to withstand landslides. With compliance with the City Building Codes, development of the Project would be “safe against hazards from landslides, and impacts would be less than significant.

***ii)* Liquefaction**

As discussed above, the encountered Puente Formation bedrock is not expected to be susceptible to liquefaction. Application of appropriate engineering controls and compliance with applicable code and regulatory requirements for construction activities on site as well as foundation design would preclude adverse effects related to liquefaction at the Project Site and protect surrounding developments. Therefore, liquefaction impacts would be less than significant.

iii) Lateral Spreading

During strong seismic shaking lateral movements can occur along weak liquefiable layers adjacent to gently to steeply sloping terrain (lateral Spreading). There does appear to be a potential for lateral spreading of the overlying fill and alluvial soil toward the adjacent drainage during strong seismic shaking. However, after over excavation of the alluvial soil, the potential for lateral spreading will be low.

iv) Subsidence

Ground subsidence has occurred in many areas of California and is often due to underground fluid withdrawals, either water or oil. Subsidence has also been related to other factors, such as incipient slope failure (possibly due to seismic shaking) and collapsible soils. Significant fluid withdrawals have not occurred in this area and no evidence of subsidence has been noted. Compacted fill is not expected to undergo significant settlement due to collapse potential. The Project Site is not expected to be subject to significant subsidence.

v) Seismic-Induced Settlement or Collapse

Seismically-induced settlement or compaction of dry or moist, cohesionless soils can result from earthquake ground motion. Such settlements are typically most damaging when the settlements are differential in nature across the length of structures. Some seismically-induced settlement of structures within the Project Site are expected as a result of strong ground shaking. In addition, onsite alluvial soils are susceptible to significant seismic settlement However, after over excavation of the alluvial soils as recommended in the Geotechnical Investigation, total seismic settlement is expected to be 1.5 inch or less. Differential settlement resulting from seismic would be reduced. Therefore, the Project would not exacerbate existing environmental conditions related to seismic-induced settlement or collapse.

vi) Conclusion

The Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, the Project would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. In accordance with the recommendations of the Geotechnical Investigation, the Project would not cause or accelerate geologic hazards related to soils that would become unstable as a result of the Project and potentially result in on- or off-Site landslides, lateral spreading, subsidence, liquefaction, or collapse. Therefore, impacts under the Project would be less than significant with respect to unstable soils; no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact Analysis:

Impact D-7: With compliance with the City Building Code, the CHMC building foundation requirement's, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety; the Project would not exacerbate expansive soil conditions at the Project Site such that direct or indirect risks to life or property would be created. Therefore, impacts under the Project would be less than significant with respect to expansive soils.

Earth materials present at finish pad grade of the Project Site are expected to consist of silty sand to clayey silt. Laboratory testing performed during this investigation onsite indicated low soil expansion potential. As a result, development of the Project would occur on expansive soils. Upward pressures induced by expansive soils can have significant effects upon structures and other surface improvements. Shrinkage of these soils during drying can also cause damage as structural support is removed.

The Project would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, the Project would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. With compliance the Project would not exacerbate expansive soil conditions at the Project Site such that direct or indirect risks to life or property would be created. Therefore, impacts under the Project would be less than significant with respect to expansive soils, and no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?

Impact Analysis:

Impact D-8: The Project would be served by a public sewer system. Therefore, no impact would occur.

As discussed in **Section VII, Effects Found Not to be Significant** and in the Initial Study (Appendix A of this Draft Focused EIR), the Project would be served by a public sewer system. Therefore, no septic tanks or alternative wastewater disposal systems would be necessary. Therefore, no impact would occur, and no mitigation measures would be required.

Mitigation Measures:

None required.

Would the project directly or indirectly destroy a unique paleontological resource or site of unique geologic feature?

Impact Analysis:

Impact D-9: The Project would require excavation below the surface to construct building foundations, and infrastructure and utility improvements (e.g., sewer, electrical, water, and drainage systems). Thus, the possibility exists that Project excavation into high sensitivity sediments could significantly impact paleontological resources that were not encountered during prior construction or other human activity. Therefore, implementation of Mitigation Measure MM GEO-1 would ensure that any potential impacts related to paleontological resources would be less than significant.

The Puente Hills are a structural block, north of the Whittier fault and southwest of the Chino fault, that uplift and emerge in the Pleistocene. This uplift is a result of the north-south compression that has been accommodated by the Puente Hills blind thrust fault. The relief of the Puente Hills is a result of a history of uplift and erosion. During the Quaternary uplift, erosion rates of the streams in the Puente Hills increased, and gullies were incised in existing broad canyons. These gullies decrease in depth upstream, and in general, streams that flow towards the southwest are longer than those flowing to the north and northeast. This pattern of gully depth and the asymmetrical pattern of the older broad canyons indicates that the Puente Hills block tilted towards the northeast during Quaternary uplift.

Geologic units present onsite include relatively young surficial deposits and bedrock. Mapped surficial units include artificial fill, colluvium, and older alluvium. The bedrock unit mapped onsite was classified as the Puente Formation Soquel Member.

A cultural resource records search was conducted by the South Central Coast Information Center (SCCIC) at California State University (CSU), Fullerton in Fullerton, California of the California Historical Resources Information System (CHRIS) on April 21, 2021 (SCCIC File No.: 22378.8590). The records search encompassed the Project area and a 0.25-mile buffer radius. The purpose of the record search was to identify if any prehistoric and/or historic-period cultural resources and studies had been previously documented in the Project area and/or the surrounding 0.25-mile radius in order to better understand the archaeological sensitivity of the area. This search also included an examination of historical maps of the area. The California Points of Historical Interest, the California Historical Landmarks, the CRHR, the NRHP, and the California Inventory of Historic Resources listings were also reviewed to determine if there were any resources listed or determined to be eligible for CRHR, NRHP, or local listing within the Project area. Results of the records searches indicate that three previously conducted cultural resources studies (see **Table IV.D-1**, **Studies Conducted within the Project Area and within 0.25 Miles of the Project**) and no previously identified cultural resource are located within the Project area. Five previously conducted cultural resource studies (**Table IV.D-1**) and one previously identified cultural resource (see **Table IV.D-2, Previously Recorded Cultural Resources within 0.25 Miles of the Project Area**) are located within 0.25-mile of the Project area. Refer to Appendix C of the Cultural Resources Evaluation for record search results.

Table IV.D-1
Studies Conducted within the Project Area and within 0.25 Miles of the Project

Date	SCCIC No.	Author	Title	Relation to the Project Area
1974	SB-00230	San Bernardino County Museum Association	Archaeological Impact Report: Preliminary Report, Surface Survey, Saint Joseph's Hill of Hope.	Within Project area
1977	SB-02892	Drover Christopher	Draft EIR for Carbon Creek Ranch and TT9781 County of San Bernardino	Within 0.25 miles of the Project area
1980	SB-00954	Mabry, Theo N., and Ronald D. Douglas (editors)	Paleontological, Archaeological, and Historical Resources, Chino Hills, County of San Bernardino, California	Within 0.25 miles of the Project area
2007	SB-06097	URS Corporation	Cultural Resources Technical Report: Fire Mitigation, Chino Valley Independent Fire District.	Within Project area
Unviable	SB-06098	Unavailable	Unavailable	Within 0.25 miles of the Project area
2010	SB-07123	Panich, Lee and John Holson	Supplemental Archaeological Survey Report, 66kV Transmission Lines Access Roads, Tehachapi Renewable Transmission Project Segments & and 8, Los Angeles and San Bernardino Counties, California.	Within 0.25 miles of the Project area
2011	SB-07083	Gust, Sherri and Molly Valasik	Paleontological and Cultural Resources of Chino Hills for the General Plan Update, City of Chino Hills, California	Within Project area
Unviable	SB-07203	Unavailable	Unavailable	Within 0.25 miles of the Project area

Source: Kleinfelder, 2021.

Table IV.D-2
Previously Recorded Cultural Resources within 0.25 Miles of the Project Area

Primary No.	Trinomial	Type	Name/Description	Eligibility Status
P-36-022188	CA-SBR-014131H	Historic-period	Structural remains of a vacation house/cabins built by the Workmen's Circle and later operated as Camp Kinder Ring summer camp	Z Found ineligible for NR, CR or Local designation through survey evaluation

Source: Kleinfelder, 2021.

Historical maps were reviewed depicting features such as towns, roads, buildings, and creeks to provide additional information regarding the potential for the presence of historic-era cultural resources within the Project area. Historic maps are available at several online repositories, in particular the USGS's repository, the David Rumsey Map Collection, and the U.S. Department of the Interior Bureau of Land Management General Land Office (GLO) Records.

On July 8, 9 and 12, 2021, Kleinfelder archaeologist, David Sosa, M.A., RPA, completed an intensive pedestrian survey of the Project area. The survey was completed using 10- to 15-meter-spaced transects. Close inspection was given to all exposed soils and cut banks for the presence of archaeological materials. The Project area was photographed using a high-resolution digital camera (see Appendix G, of the Cultural Resources Evaluation Survey Photographs) and field observations were captured in written notes. Locational data were collected with Environmental Systems Research Institute Arc Collector application on Android. The Project area was hilly with steep angles but accessible by foot and 100 percent of the Project area was surveyed. A large white house was in the center of the Project area and seven historic-period buildings are located in the north-northeast of the Project area within APN-1000-051-09. Ground visibility was moderate. Soils ranged from a light tan loam in the south end, to light tan loam to dark gray sandy loam in the north end, to pale tan sandy loam in far northeast end north of Canyon Hills Drive. Vegetation consisted of low to medium grasses, oaks, brush, and eucalyptus trees.

i) Observed Resources and Evaluations

Kleinfelder identified two newly recorded cultural resources (one historical glass scatter; [DGS070821_1] and one historical refuse scatter [DGS070821_2]) and recorded one property with buildings that date between ca. 1920 and ca. 2005 (APN-1000-051-09 [Buildings 1-11]). The resources are summarized below (refer to Appendix E (specifically, Appendix B, Figure 4 for resource location map, Appendix F for the newly recorded sites on DPR 523 forms, and Appendix G for survey photographs of the Cultural Resources Report).

ii) Cultural Resources Scatter

This cultural resource site consists of a refuse scatter measuring 25 feet (north/south) by 13 feet (east/west). The site is located on a slope near the top of a ridge behind the garage of a large white house located at the center of the Project area. The site is composed of 31 historical glass fragments varied in

color including, 11 amethyst glass fragments, 13 aqua glass fragments, one cobalt glass fragment, two green glass fragments, two red glass fragments, and two brown glass fragments. One amethyst cup fragment with a handle was noted. Other components observed within the site are non-historic materials, including red brick, a concrete block, wood, and metal fragments. No maker's mark on the glass fragments were observed. The site is likely a single episode dumping dating back to the 1914 to 1945 era, as there is a fragment of a possible Tiara glass amber sandwich pattern of a coffee/teacup with handle dating to the 1920's.

The Project would require excavation below the surface to construct building foundations, and infrastructure and utility improvements (e.g., sewer, electrical, water, and drainage systems). Thus, the possibility exists that Project excavation into high sensitivity sediments could significantly impact paleontological resources that were not encountered during prior construction or other human activity.

Accordingly, mitigation measure **MM GEO-1**, outlined below under Mitigation Measures, would require the retention and involvement of a Qualified Paleontologist to provide technical and compliance oversight of all work as it relates to paleontological resources and a paleontological monitor to monitor all ground disturbing activities in previously undisturbed sediments which have high sensitivity for encountering paleontological resources or as determined necessary by the Qualified Paleontologist. In the event paleontological materials are encountered, the Paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed material to facilitate evaluation and, if necessary, salvage. Therefore, implementation of Mitigation Measure **MM GEO-**1 would ensure that any potential impacts related to paleontological resources would be less than significant.

Mitigation Measures:

MM GEO-1: A Qualified Paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards and subject to the City's review and concurrence, shall be retained by the Applicant or its Successor prior to the approval of demolition or grading permits. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the Project Site in the event potential paleontological resources are encountered.

The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project Site and the procedures to be followed if they are found. Documentation shall be retained by the Qualified Paleontologist demonstrating that the appropriate construction personnel attended the training.

Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting SVP standards) under the direction of the Qualified Paleontologist. Paleontological resources monitoring shall be conducted for all ground disturbing activities in previously undisturbed sediments which have high sensitivity for encountering paleontological resources. However, depending on the conditions encountered, full-time monitoring within these sediments can be reduced to part-time inspections or ceased entirely if determined adequate by the Qualified Paleontologist. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and

recommend whether the depth of required monitoring should be revised based on his/her observations. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils or potential fossils. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries.

If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery, conferred with the City, and made recommendations as to the appropriate treatment. Any significant fossils collected during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. The Qualified Paleontologist shall prepare a final monitoring and mitigation report (with the daily logs attached as an appendix) for submittal to the City in order to document the results of the monitoring effort and any discoveries. If there are significant discoveries, fossil locality information and final disposition shall be included with the final report which shall be submitted to the appropriate repository and the City.

4. CUMULATIVE IMPACTS

As indicated in **Section III, Environmental Setting**, of this Draft Focused EIR, the nearest Related Projects include Nos. 7 and 17 which are residential uses located on Carbon Canyon Road. None of the Related Projects would share adjacent street frontages with the Project Site.

Due to the site-specific nature of geological conditions (i.e., soils, geological features, subsurface features, seismic features, etc.), geology and paleontological impacts are typically assessed on a project-by-project basis rather than on a cumulative basis. Nonetheless, cumulative growth through the 2024 (buildout year), inclusive of the related projects identified in **Section III, Environmental Setting**, of this Draft Focused EIR, could potentially result in impacts on geology and paleontological resources. However, as with the Project, related projects would be subject to established guidelines and regulations pertaining to building design and seismic safety, including those set forth in the CBC and the Chino Hills Building Code. Therefore, considering the proposed land uses of the Project and related projects, as well as the existing regulatory requirements and regulations that would apply to all development, the Project's contribution to cumulative impacts would not be cumulatively considerable. As such, cumulative impacts regarding geology and soils would be less than significant.

With regard to paleontological resources, projects within the cumulative study area for the Project include those related projects that require excavation on parcels that have been disturbed or are already developed, or would have the potential to disturb geological units that are sensitive for paleontological resources. Generally, projects with the potential for substantial excavation would be subject to environmental review under CEQA. If the potential for significant impacts on paleontological resources were identified given the site characteristics and development program of the related projects, mitigation measures, similar to the ones proposed under the Project (refer to Mitigation Measure **MM GEO-1**), would be required. As with the Project, this measure would include a monitoring program and treatment/curation of discovered fossils. Implementation of this measure would reduce the potential for adverse effects on fossil resources individually and cumulatively, and would preserve and maximize the potential of these resources to contribute to the body of scientific knowledge. The related projects would be required to comply with applicable regulations and standard City mitigation measures regarding paleontological resources. Therefore, the Project's contribution to cumulative impacts would not be

cumulatively considerable. As such, cumulative impacts on paleontological resources would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measure **MM GEO-1** Project impacts and cumulative impacts related to geology and soils would be reduced to a level of less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
E. GREENHOUSE GAS EMISSIONS

1. INTRODUCTION

This section of the Focused EIR includes a discussion of global climate change, existing greenhouse gas emissions (GHG) emissions and regulatory framework pertaining to global climate change, and potential impacts due to the GHG emissions that would result from construction and operation of the proposed Project. The analysis also addresses the consistency of the Project with applicable regulations and policies set forth by the State of California, South Coast Air Quality Management District (SCAQMD), Southern California Association of Governments (SCAG) and the City of Chino Hills (City) to reduce GHGs. This section is based on information provided in Appendix C of this Draft Focused EIR, which includes *Paradise Ranch Project Air Quality and Greenhouse Gas Impact Study, City of Chino Hills, prepared by MD Acoustics, LLC, on April 26, 2022.*

2. ENVIRONMENTAL SETTING

A. Climate and Meteorological Setting

The Project Site is located in the City of Chino Hills within the southwestern portion of County of San Bernardino, which is part of the South Coast Air Basin (Basin). The Basin is named so because its geographical formation is that of a Basin, with the surrounding mountains trapping the air and its pollutants in the valleys below. The Basin in an approximately 6,745 square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. This Basin includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas where the Project Site is located. The majority of the annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunderstorms in the coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. Year-to-year patterns in rainfall are unpredictable because of fluctuations in the weather.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the Basin are radiation inversions, which form on clear winter nights when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the Basin include marine, subsidence, and high-pressure inversions.

Summers are often periods of hazy visibility and occasionally unhealthful air. Strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloudtrap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the Project vicinity.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the Basin, there is not enough traffic to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the Project vicinity.

The temperature and precipitation levels for the City of Yorba Linda, the closest monitoring station to the Project Site with available meteorological data, are in **Table IV.E-1, Meteorological Summary**. **Table IV.E-1** shows that August is typically the warmest month and January is typically the coolest month. Rainfall in the Project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Table IV.E-1
Meteorological Summary

	Temperature (˚F)		
Month	**Average High**	**Average Low**	**Average Precipitation (inches)**
January	66.9	41.7	2.99
February	68.4	43.3	3.10
March	70.6	44.2	2.37
April	73.5	46.7	1.11
May	76.5	51.0	0.30
June	81.3	54.6	0.04
July	87.9	58.2	0.01
August	88.4	58.5	0.10
September	86.5	56.2	0.31
October	80.6	52.2	0.53
November	74.6	46.8	1.31
December	68.6	42.7	2.21
Annual Average	**77.0**	**49.7**	**14.4**
Source: MD Acoustics, 2021.			

B. Local Air Quality

The SCAQMD is divided into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The Project Site is located in the City of Chino Hills in the Southwest San Bernardino Valley (Area 33). The nearest air monitoring station to the Project Site with available air quality data is the Upland Station located approximately 13 miles northeast of the Project Site; however, this location does not provide all ambient weather data. Therefore, additional data was pulled from the SCAQMD historical data for the Southwest San Bernardino Valley (Area 33) for both sulfur dioxide and carbon monoxide to provide the existing levels. **Table IV.E-2**, **Local Air Quality Levels from the Upland Monitoring Station** presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the Project Site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the Project Site.

The monitoring data presented in **Table IV.E-2** shows that ozone and particulate matter (PM_{10} and $PM_{2.5}$) are the air pollutants of primary concern in the Project area, which are detailed below.

Table IV.E-2
Local Air Quality Levels from the Upland Monitoring Station

Pollutant Standard[a]	Year		
	2018	2019	2020
Ozone (O_3)			
Maximum 1-hour concentration measured (ppm)	0.133	0.131	0.158
Days > CAAQS (0.09 ppm)	25	31	82
Maximum 8-Hour Concentration (ppm)	0.112	0.107	0.124
Days > NAAQS (0.07 ppm	52	52	116
Days > CAAQS (0.070 ppm)	54	54	118
Carbon Monoxide (CO)			
Maximum 1-hour concentration measured (ppm)	1.2	1.5	1.5
Days > NAAQS (20 ppm)	0	0	0
Maximum 8-Hour Concentration (ppm)	1.6	1.1	1.2
Days > NAAQS (9 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration measured (ppm)	0.059	0.058	0.055
Days > NAAQS (0.25 ppm)	0	0	0
SO_2			
Maximum 1-hour concentration measured (ppm)	*	*	*
Days > CAAQS (0.04 ppm)[3]	*	*	*
PM_{10}			
Maximum 24-hour concentration measured µg/m^3	156.6	125.9	174.8
Number of days exceeding national 150 µg/m^3 24-hour standard	1	0	1
Number of days exceeding State 50 µg/m^3 24-hour standard	*	*	*
Annual Arithmetic Mean (AAM)	33.4	29.0	33.5
Annual > NAAQS (50 ug/m3)	No	No	No
Annual > CAAQS (20 ug/m3)	Yes	Yes	Yes
$PM_{2.5}$			
Maximum 24-hour concentration measured µg/m3	47.9	91.1	74.0
Days > NAAQS (35 ug/m3)	*	*	*
Annual Average (ug/m3) 3	*	*	*
Annual > NAAQS (15 ug/m3) 3	*	*	*
Annual > CAAQS (12 ug/m3) 3	*	*	*

Table IV.E-2
Local Air Quality Levels from the Upland Monitoring Station

Pollutant Standard[a]	Year		
	2018	2019	2020
ppm = parts by volume per million of air *µg/m³=micrograms per cubic meter* ** = data not available or not collected by the District* *Source: SCAQMD Historical Data by Year, website: https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year and /or* *https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed December 2021.*			

Ozone (O_3). During the 2018 to 2020 monitoring period, the State 1-hour concentration standard for ozone has been exceeded between 31 and 82 days each year at the Upland Station. The State 8-hour concentration standard for ozone has been exceeded between 38 and 47 days each year over the past three years at the Upland Station. The Federal 8-hour concentration standard for ozone has been exceeded between 54 and 118 days each year over the past three years at the Upland Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

Carbon Monoxide (CO). CO is another important pollutant that is due mainly to motor vehicles. The Southwest San Bernardino Valley Area did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

Nitrogen Dioxide (NO_2). The Upland Station did not record an exceedance of the State or Federal NO_2 standards for the last three years.

Sulfur Dioxide (SO_2). The Southwest San Bernardino Valley area did not record an exceedance of the State SO_2 standards for the last three years.

Particulate Matter (PM). During the 2018 to 2020 monitoring period, the Upland Station did not record an exceedance of the State 24-hour concentration standard for PM_{10}. Over the same time period the Federal 24-hour standard for PM_{10} was exceeded one day each in 2018 and 2020 at the Upland Station.

During the 2018 to 2020 monitoring period, the Upland Station did not record an exceedance of the Federal 24-hour standard for $PM_{2.5}$.

According to the Environmental Protection Agency (EPA), some people are much more sensitive than others to breathing fine particles (PM_{10} and $PM_{2.5}$). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths during exercise.

C. Attainment Status

The EPA and California Air Resources Board (CARB) designate air Basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an

"attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. **Table IV.E-3, South Coast Air Basin Attainment Status** lists the attainment status for the criteria pollutants in the Basin.

D. Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO2), methane (CH4), ozone, water vapor, nitrous oxide (N2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO2 and nitrous oxide (NO_2) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO2, where CO2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. **Table IV.E-4, Description of Greenhouse Gases** provides a description of each of the greenhouse gases and their global warming potential.

Table IV.E-3
South Coast Air Basin Attainment Status

Pollutant	Standard[a]	Average Time	Designation[b]	Attainment Date[c]
1-Hour Ozone	NAAQS	1979 1-Hour 0.12 ppm	Nonattainment (Extreme)	2/6/2023 (not attained)
	CAAQS	1-Hour 0.09 ppm	Nonattainment	N/A
8-Hour Ozone5	NAAQS	1997 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	NAAQS	2008 8-Hour 0.075 ppm)	Nonattainment (Extreme)	7/20/2032
	NAAQS	2015 8-Hour 0.070 ppm	Nonattainment (Extreme)	8/3/2038
	CAAQS	8-Hour 0.070 ppm	Nonattainment	Beyond 2032
CO	NAAQS	1-Hour (35 ppm)	Attainment (Maintenance)	6/11/2007 (attained)
	CAAQS	8-Hour (9 ppm)	Attainment	6/11/2007 (attained)
NO_2	NAAQS	1-Hour (0.1 ppm)	Unclassifiable/Attainment	N/A (attained)
	NAAQS	Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)

Table IV.E-3
South Coast Air Basin Attainment Status

Pollutant	Standard[a]	Average Time	Designation[b]	Attainment Date[c]
	CAAQS	1-hour (0.18 ppm) Annual (0.030 ppm)	Attainment	-
SO_2	NAAQS	1-Hour (75 ppb)	Designations Pending (expect Uncl./Attainment)	N/A (attained)
	NAAQS	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment	3/19/1979 (attained)
PM_{10}	NAAQS	1987 24-Hour (150 µg/m3	Attainment (Maintenance)	7/26/2013 (attained)
	CAAQS	24-Hour (50 µg/m3) Annual (20 µg/m3)	Nonattainment	N/A
$PM_{2.5}$	NAAQS	2006 24-Hour (35 µg/m3)	Nonattainment (Serious)	12/31/2019
	NAAQS	1997 Annual 15.0 µg/m3	Attainment	8/24/2016
	NAAQS	2021 Annual 12.0 µg/m3	Nonattainment (Serious)	12/31/2025
	CAAQS	Annual 12.0 µg/m3)	Nonattainment	N/A
Lead	NAAQS	3-Months Rolling (0.15 µg/m3)	Nonattainment (Partial)	12/31/2015

[a] *NAAQS = National Ambient Air Quality Standards, CAAQS = California Ambient Air Quality Standards*

[b] *U.S. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassifiable/Attainment or Unclassifiable.*

[c] *A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.*

[d] *1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data and is still subject to anti-backsliding requirements.*

[e] *1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the revoked 1997 O_3 standard is still subject to anti-backsliding requirements.*

[f] *New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.*

[g] *The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are still pending, with Basin expected to be designated Unclassifiable /Attainment.*

[h] *Annual PM_{10} standard was revoked, effective December 18, 2006; 24-hour PM_{10} NAAQS deadline was 12/31/2006; SCAQMD request for attainment redesignation and PM_{10} maintenance plan was approved by U.S. EPA on June 26, 2013, effective July 26, 2013.*

[i] *Attainment deadline for the 2006 24-Hour $PM_{2.5}$ NAAQS (designation effective December 14, 2009) is December 31, 2019 (end of the 10th calendar year after effective date of designations for Serious nonattainment areas). Annual $PM_{2.5}$ standard was revised on January 15, 2013, effective March 18, 2013, from 15 to 12 µg/m3. Designations effective April 15, 2015, so Serious area attainment deadline is December 31, 2025.*

[j] *Partial Nonattainment designation – Los Angeles County portion of Basin only for near-source monitors. Expect redesignation to attainment based on current monitoring data.*

Source: Website: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf.

Table IV.E-4
Description of Greenhouse Gases

Greenhouse Gas	Description for Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N20),also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N20.
Methane	Methane (CH4) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	A natural source of CH4 is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO2) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b.Website: https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html December 2021.

E. Regulatory Setting

i) International Regulations

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

Kyoto Protocol. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

ii) Federal Regulations

Greenhouse Gas Endangerment. On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on Massachusetts v. EPA (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to

35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Issued by the National Highway Traffic Safety Administration (NHTSA) and EPA in March 2020 (published on April 30, 2020, and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the Corporate Average Fuel Economy (CAFE) and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2- equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[1]

Mandatory Reporting of Greenhouse Gases. On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

Climate Adaption Plan. The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: https://www.epa.gov/arc-x/planning-climate-change-adaptation.

iii) State Regulations

The State of California has passed a number of legislations to address climate change and reduce the potential risks and effects of climate change, as discussed below.

[1] *National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, o. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: website: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.*

1) California Code of Regulations (CCR) Title 24, Part 6.

CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013, 2016, and 2019 standards have been approved and became effective July 1, 2014, January 1, 2016, and January 1, 2020, respectively.

2) California Code of Regulations (CCR) Title 24, Part 11

All buildings for which an application for a building permit is submitted on or after January 1, 2020, must follow the 2019 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

3) California Green Building Standards

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The 2019 CalGreen Code includes the following changes and/or additional regulations:

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or

more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require post-construction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with installation of post-construction stormwater management measures.

HCD amended Section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

HCD updated Section 5.303.3.3 in regard to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended Section 5.304.1 for outdoor potable water use in landscape areas and repealed Sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regard to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

a) Executive Order S-3-05

On June 1, 2005, Executive Order S-3-05 was issued, which established GHG emissions targets for the State of California, as well as a process to ensure the targets are met. The order directed the Secretary for California's Environmental Protection Agency ("CalEPA") to report every two years on the state's progress toward meeting the Governor's GHG emission reduction targets. As a result of this executive order, the California Climate Action Team, led by the Secretary of CalEPA, was formed. The California Climate Action Team is made up of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and reporting on the progress made toward meeting statewide targets established under the Executive Order. The California Climate Action Team reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order. The statewide GHG targets are as follows:

- By 2010, reduce to 2000 emission levels.
- By 2020, reduce to 1990 emission levels; and
- By 2050, reduce to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006.

The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

b) Executive Order S-01-07

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

c) SB 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009, the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no

specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given Project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the Project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

d) AB 32

The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. CARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

The CARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO2e.

Under AB 32, CARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. CARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. CARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO2e by 2020, representing approximately 25 percent of the 2020 target.

CARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, Including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.4

e) Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned

utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

f) SB 375

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed Project is located within the Southern California Association of Governments (SCAG), which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements.

On September 3, 2020, SCAG's Regional Council approved and fully adopted the Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. Connect SoCal outlines more than $638 billion in transportation system investments through 2045. Connect SoCal is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently. By integrating the Forecasted Development Pattern with a suite of financially constrained transportation investments, Connect SoCal can reach the regional target of reducing greenhouse gases, or GHGs, from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels).

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

g) Assembly Bill 939, Assembly Bill, and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. AB 341 requires at least 75 percent of generated waste be source reduced, recycled, or composted by the year 2020. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model

ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

h) Executive Order S-13-08

Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

i) Executive Order B-30-15

Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

j) Executive Order B-29-15

Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

k) Executive Order B-37-16

Executive Order B-37-16, continuing the State's adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

l) Executive Order N-79-20

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

4) South Coast Air Quality Management District

The Project is within the South Coast Air Basin, which is under the jurisdiction of SCAQMD. SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

a) SCAQMD Threshold Development

The SCAQMD has established recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"). SCAQMD has published a five-tiered draft GHG threshold which includes a 10,000 metric ton of CO2e per year for stationary/industrial sources and 3,000 metric tons of CO2e per year significance threshold for residential/commercial projects (South Coast Air Quality Management District 2010c). Tier 3 is anticipated to be the primary tier by which the SCAQMD will determine significance for projects. The Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90-precent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to CEQA analysis. The 90-percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the SCAQMD's annual Emissions Reporting Program.

The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the Project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the Project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
    - All land use types: 3,000 MTCO2e per year; and
    - Based on land use types: residential is 3,500 MTCO2e per year; commercial is 1,400 MTCO2e per year; and mixed use is 3,000 MTCO2e per year
- Tier 4 has the following options:
    - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined;
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures;
    - Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO2e/SP/year for projects and 6.6 MTCO2e/SP/year for plans; or
    - Option 3, 2035 target: 3.0 MTCO2e/SP/year for projects and 4.1 MTCO2e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

iv) Regional Regulations

1) County of San Bernardino Climate Action Plan

The County of San Bernardino adopted its "Greenhouse Gas Emissions Reduction Plan" in December in 2011. An update to the GHG Emissions Development Review Process was made in 2015. The purpose of the GHG Plan is to reduce the County's internal and external GHG emissions by 15 percent below current (2011) levels by year 2020. The GHG Plan includes a two-tiered development review procedure to

determine if a project could result in a significant impact related greenhouse gas emissions or otherwise comply with the Plan pursuant to Section 15183.5 of the state CEQA Guidelines.

The initial screening procedure is to determine if a project will emit 3,000 metric tons of carbon dioxide equivalent (MTCO2e) per year or more. Projects that do not exceed this threshold require no further climate change analysis. Projects exceeding this threshold must meet a minimum 31 percent emissions reduction in order to garner a less than significant determination. This can be met by either (1) achieving 100 points from a menu of mitigation options provided in the GHG Plan or (2) quantifying proposed reduction measures. Projects failing to meet the 31 percent reduction threshold would have a potentially significant impact related to climate change and greenhouse gas emissions. An update to the GHG Emissions Development Review Process was made in March 2015 to both improve upon the menu of options available in the screening tables and to bring performance standards up to current code.

Therefore, to determine whether the Project's GHG emissions are significant, this analysis uses the County of San Bernardino and SCAQMD draft local agency tier 3 threshold screening threshold of 3,000 MTCO2e per year for all land use types.

The Project will be subject to the latest requirements of the California Green Building and Title 24 Energy Efficiency Standards (currently 2019) which would reduce Project-related greenhouse gas emissions.

v) Local Regulations

1) City of Chino Hills General Plan

The City's General Plan includes various policies related to reducing greenhouse gas emissions. The applicable policies to the Project are listed below.

Goal CN-3: Promote Sustainable Practices that Conserve Natural Resources and Reduce Greenhouse Gas Emissions.

Policy CN-3.1: Endorse green building design in new and existing construction.

- **Action CN-3.1.1:** Implement green building policies that promote increased use of energy efficiency, alternative energy, recycled materials, renewable resources, local materials, water efficiency, and pollution reduction.
- **Action CN-3.1.2:** Establish programs that encourage homeowners to reduce energy consumption.
- **Action CN-3.1.3:** Seek available funding sources that can be applied toward green building programs.
- **Action CN-3.1.4:** Coordinate with state and regional agencies to ensure that alternative energy facilities are compatible with Chino Hills' natural and built environment.

Policy CN-3.2: Develop and implement a Climate Action Plan.

- **Action CN-3.2.1:** Reduce greenhouse gas emissions in City operations.
- **Action CN-3.2.2:** Power City vehicles and equipment with reduced carbon dioxide emission fuels.
- **Action CN-3.2.3:** Provide Climate Action Plan information and resources to the Chino Hills community.

Goal CN-6: Promote Clean Air to Reduce Adverse Effects on Human Health and the Environment.

Policy CN-6.1: Reduce air pollution through coordinated land use, transportation, and energy use planning.

- **Action CN-6.1.1:** Endorse regional air quality and transportation management plans in order to reduce air pollution emissions and vehicle trips.
- **Action CN-6.1.2:** Encourage multifamily development to develop close to existing/planned transit and commercial areas to encourage pedestrian and nonautomobile traffic.
- **Action CN-6.1.3:** Promote transit that serves the City and links to adjacent cities and counties.
- **Action CN-6.1.4:** Provide commercial areas that are conducive to pedestrian and bicycle circulation.

Policy CN-6.2: Reduce air pollution impacts on health.

- **Action CN-6.2.1:** Encourage compliance with CARB "Air Quality and Land Use Handbook: A Community Health Perspective," which provides guidelines for siting new sensitive land uses in proximity to air pollutant emitting sources.
- **Action CN-6.2.2:** Require businesses to limit air pollution emissions in compliance with state and regional regulations and to reduce health impacts on sensitive land uses.
- **Action CN-6.2.3:** Require businesses to limit odor emissions to eliminate or reduce nuisance impacts on sensitive land uses.

Policy CN-6.3: Reduce air pollution emissions from construction activities.

- **Action CN-6.3.1:** Require preparation of air quality analyses of construction-related air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to the California Environmental Quality Act (CEQA). If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.
- **Action CN-6.3.2:** Encourage large construction projects to mitigate diesel exhaust emissions through the use of alternative fuels and control devices.
- **Action CN-6.3:3:** Require dust abatement actions for all new construction and redevelopment projects.

Policy CN-6.4: Reduce air pollution emissions from new development.

- **Action CN-6.4.1:** Require preparation of air quality analyses that analyze operational air quality impacts using the latest available air emissions model or other analytical method determined in conjunction with SCAQMD for all projects subject to the California Environmental Quality Act (CEQA). If such analyses identify potentially significant regional or local air quality impacts, require the incorporation of appropriate mitigation to reduce such impacts.

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Thresholds of Significance

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant

impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. As previously discussed (Section 2.2.4 of this report), SCAQMD has drafted interim thresholds. The screening threshold of 3,000 MTCO2e per year for all land uses was used in this analysis.

i) Toxic Air Contaminants

The threshold for toxic air contaminants (TACs) has a maximum incremental cancer risk of 10 per million and a non-cancer (acute and chronic) hazard index of 1.0 or greater. An exceedance to these values would be considered a significant impact.

B. Methodology

With respect to GHG emissions, the CEQA Guidelines state in CCR Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that a lead agency shall have the discretion to "quantify the GHG emissions from a project, and/or rely on a qualitative analysis or other performance based standards" (14 CCR 15064.4(a)).

Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess the significance of GHG emissions quantitatively or qualitatively. Under either approach, the lead agency's analysis must demonstrate a good-faith effort to disclose the amount and significance of greenhouse gas emissions resulting from a project, based to the extent possible on scientific and factual data. (CEQA Guidelines, § 15064.4, subd. (a).)

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the Project. Construction activities would generate air pollutant emissions at the Project Site and on roadways resulting from construction-related traffic, use of construction equipment, and grading/earthwork activities. In addition, air pollutant emissions associated with the Project would result from Project operations and from Project-related traffic volumes. The net increase in air pollutant emissions generated by these activities and other secondary sources have been quantitatively estimated in accordance with SCAQMD recommended methodologies and compared to the thresholds of significance.

i) Construction

Construction activities within the Project area will consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, net export of approximately 59,075 cubic yards of soil, import of approximately 41,410 cubic yards of soil, building, paving, and architectural coating. **Table IV.E-5, Land Use Summary** summarizes the land use description for the Project Site.

Table IV.E-5
Land Use Summary

Land Use	Unit Amount	Size Metric
Single Family Housing[a]	50	Units
Other Asphalt Surfaces[b]	8.80	Acre
Other Non-Asphalt Surfaces	10.00	Acre

[a] *Units cover 8.8 acres.*
[b] *Street paving approx. 25% of total 35.2 acres of housing.*
Source: MD Acoustics, December 1, 2021.

Typical emission rates from construction activities were obtained from CalEEMod Version 2020.4.0 CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of San Bernardino County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed Project as indicated in **Table IV.E-5**. Per the Project owner, construction is anticipated to begin in February 2023 and finish in July 2025. The phases of the construction activities which have been analyzed below are: 1) demolition, 2) site preparation, 3) grading, 4) building, 5) paving, and 6) architectural coating. For details on construction modeling and construction equipment for each phase, please see Appendix C.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (approximately 85.2 acres) and the fact that the Project won't export more than 5,000 cubic yards of material a day a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance

with Rule 403 is required. Compliance is shown in the CalEEMod model as application of water three times daily, which is included in the model as a mitigation measure.

ii) Operation

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

b) Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the proposed Project. The vehicle trips associated with the proposed Project are based upon the trip generation rates give in the Project-specific trip generation analysis (Linscott, Law & Greenspan, Engineers) which uses the Highway Capacity Manual 6th Edition (HCM 6). The trip generation analysis shows a net trip generation rate of 481 trips per day for the proposed Project.

The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix C.

c) Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less for buildings and 100 grams per liter or less for parking lot striping. No changes were made to the CalEEMod architectural coating default values.

Per AB 341, at least 75 percent of generated waste will be source reduced, recycled, or composted. This is shown in the CalEEMod model as a mitigation measure; however, it is required.

d) Energy Usage

2020.4.0 CalEEMod defaults were utilized.

iii) Localized Construction Analysis

The SCAQMD has published a “Fact Sheet for Applying CalEEMod to Localized Significance Thresholds” (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold

lookup tables, the CEQA document should contain in its project design features or its mitigation measures the following parameters:

1. The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2. The maximum number of acres disturbed on the peak day.
3. Any emission control devices added onto off-road equipment.
4. Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The construction equipment showing the equipment associated with the maximum area of disturbance is shown in **Table IV.E-6, Construction Equipment Assumptions**.

Table IV.E-6
Construction Equipment Assumptions

Activity	Equipment	Number	Acres 8 hr-day	Total Acres
Demolition	Excavators	3	0.5	1.5
	Rubber Tired Dozers	2	0.5	1.0
Total Per Phase				2.5
Site Preparation	Rubber Tired Dozers	3	0.5	1.5
	Tractors/Loaders/Backhoes	4	0.5	2.0
Total Per Phase				3.5
Grading	Excavators	2	0.5	1.0
	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Scrapers	2	0.5	1.0
Total Per Phase				**4.0**

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2.

As shown in **Table IV.E-6**, the maximum number of acres disturbed in a day would be 4 acres during demolition and grading.

The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NO_x, PM_{10}, and $PM_{2.5}$ from the proposed Project could result in a significant impact to the local air quality. The emission thresholds were based on the Southwest San Bernardino Valley source receptor area (SRA 33) and a disturbance of 2 acres per day at a distance of 50 meters (164 feet).

iv) Localized Operational Analysis

For operational emissions, the screening tables for a disturbance area of 2 acres per day, to be conservative, and a distance of 50 meters were used to determine significance. The tables were compared to the Project's onsite operational emissions.

C. Project Impacts and Mitigation Measures

Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact Analysis:

Impact E-1: Construction and operation of the project would generate greenhouse gas emissions. However, the project's emissions would not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHG. The impact of the proposed Project would be less than significant.

i) Construction Greenhouse Gas Emissions

The greenhouse gas emissions from Project construction equipment and worker vehicles are shown in **Table IV.E-7, Construction Greenhouse Gas Emissions**. The emissions are from all phases of construction. The total construction emissions amortized over a period of 30 years are estimated at 59.07 metric tons of CO2e per year, and their potential significance evaluated in **Table IV.E-7**, below. Annual CalEEMod output calculations are provided in Appendix C.

Table IV.E-7
Construction Greenhouse Gas Emissions

	Emissions ($MTCO_2e$)[a]		
Activity	**Onsite**	**Offsite**	**Total**
Demolition	85.57	3.51	89.08
Site Preparation	50.56	2.40	52.96
Grading	206.16	389.31	595.47
Building Construction	303.14	737.90	1,041.03
Paving	55.52	3.49	59.00
Coating	7.03	16.73	23.76
Total	**622.41**	**1,149.82**	**1,772.23**
Average over 30 years[b]	**20.75**	**38.33**	**59.07**

[a] *MTCO2e=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide).*
[b] *The emissions are averaged over 30 years because the average is added to the operational emissions, pursuant to SCAQMD.*
Source CalEEMod output (Appendix C).

ii) Operational Greenhouse Gas Emissions

Operational emissions occur over the life of the Project. The operational emissions for the Project are 828.16 metric tons of CO2e per year (see **Table IV.E-8, Opening Year Unmitigated Project-Related Greenhouse Gas Emissions**). Furthermore, as shown in **Table IV.E-8**, the Project's total emissions (with incorporation of construction related GHG emissions) would be 828.16 metric tons of CO2e per year. These emissions do not exceed the City of Chino Hills CAP Update and SCAQMD screening threshold of 3,000 metric tons of CO2e per year. Therefore, the Project's GHG emissions are considered to be less than significant.

Table IV.E-8
Opening Year Unmitigated Project-Related Greenhouse Gas Emissions

Category	Bio-CO_2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_{2e}
Area Sources[a]	0.00	11.05	11.05	0.00	0.00	11.13
Energy Usage[b]	0.00	146.10	146.10	0.01	0.00	146.91
Mobile Sources[c]	0.00	556.47	556.47	0.03	0.03	565.49
Solid Waste[d]	11.90	0.00	11.90	0.70	0.00	29.49
Water[e]	1.03	11.57	12.60	0.11	0.00	16.06
Construction[f]	0.00	34.05	34.05	0.00	0.00	59.07
Total Emissions	12.93	759.24	772.17	0.85	0.03	**828.16**
SCAQMD Draft and San Bernardino County Screening Threshold						**3,000**
Exceeds Threshold?						**No**

[a] *Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.*
[b] *Energy usage consist of GHG emissions from electricity and natural gas usage.*
[c] *Mobile sources consist of GHG emissions from vehicles.*
[d] *Solid waste includes the CO2 and CH4 emissions created from the solid waste placed in landfills.*
[e] *Water includes GHG emissions from electricity used for transport of water and processing of wastewater.*
[f] *Construction GHG emissions based on a 30-year amortization rate.*
Source: CalEEMod Version 2020.4.0. December 2021.

iii) Greenhouse Gas Plan Consistency

The proposed Project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

According to the County of San Bernardino Greenhouse Gas Emissions Reduction Plan, "all development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions." The Project's operational GHG emissions do not exceed the County's screening threshold of 3,000 MTCO2e per year. Therefore, the proposed Project is consistent with the GHG Plan pursuant to Section 15183.5 of the State CEQA Guidelines. The Project will not result in substantial emissions of greenhouse gases and will not conflict with the County of San Bernardino CAP or the goals of AB-32 or SB-32. Furthermore, the Project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards.

Based on the above, the proposed Project would not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHGs. The impact of the proposed Project would be less than significant and no mitigation measures are required.

Mitigation Measures:

None required.

4. CUMULATIVE IMPACTS

Cumulative projects include local development as well as general growth within the Project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from a greenhouse gas standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the Project's greenhouse gas impacts must be generic by nature.

Construction and operation of cumulative projects will add to greenhouse gas emissions. The greatest cumulative impact will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Greenhouse gas emissions will temporarily increase during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The Project does not exceed any of the thresholds of significance and therefore is considered less than significant.

Similar to the Project, the cumulative projects identified in this Focused EIR and all future projects in the State would be reviewed for consistency with applicable State, regional and local plans, policies, or regulations for the reduction of greenhouse gases. Therefore, based on the discussion above, the Project's generation of GHG emissions would not be considered cumulatively considerable and would not conflict with an applicable plan, policy or regulation for the purposes of reducing the emissions of greenhouse gasses. Therefore, the Project's cumulative impact would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts associated with GHG emissions would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
F. NOISE

1. INTRODUCTION

The purpose of this Focused EIR section is to evaluate the construction-related and operational noise and ground-borne vibration impacts of the proposed Project. The section describes the existing noise environment in the Project area, estimates noise and vibration levels from construction and operation of the Project, and analyzes the Project's potential to generate significant noise impacts. The evaluation is based on the *Paradise Ranch Project Noise Impact Study, City of Chino Hills, prepared by MD Acoustics, LLC, on October May 5, 2022,* included as Appendix G to this Draft Focused EIR.

2. BACKGROUND INFORMATION

A. Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources, such as an occasional aircraft or train passing by to virtually continuous noise sources like traffic on a major highway. **Table IV.F-1, Representative Environmental Noise Levels**, illustrates representative noise levels in the environment.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- **L_{eq}** – The equivalent energy noise level is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **L_{min}** – The minimum instantaneous noise level experienced during a given period of time.
- **L_{max}** – The maximum instantaneous noise level experienced during a given period of time.
- **CNEL** – The Community Noise Equivalent Level is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 PM. to 7:00 AM., and an additional 5 dBA penalty during the hours of 7:00 PM. to 10:00 PM. to account for noise sensitivity in the evening and nighttime.

The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

Table IV.F-1
Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-Over at 100 Feet	105	
	100	
Gas Lawnmower at 3 Feet	95	
	90	
	85	Food Blender at 3 Feet
Diesel Truck Traveling at 50 MPH at 50 Feet	80	Garbage Disposal at 3 Feet
Noisy Urban Area during Daytime	75	
Gas Lawnmower at 100 Feet	70	Vacuum Cleaner at 10 Feet
Commercial Area	65	Normal Speech at 3 Feet
Heavy Traffic at 300 Feet	60	
	55	Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
	45	
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	35	
	30	Library
Quiet Rural Area during Nighttime	25	Bedroom at Night, Concert Hall (background)
	20	
	15	Broadcast/Recording Studio
	10	
	5	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing
Source: California Department of Transportation, October 1998.		

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{dn} is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location.

A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA.[1] Furthermore, the exterior-to-interior noise reduction of newer homes and office buildings can be more than 30 dBA, depending on construction materials and methods used.

B. Fundamentals of Ground-Borne Vibration

Vibration is sound radiated through the ground or structures. Vibration can result from a source (e.g., train operations, motor vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby, creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as ground-borne vibration. Ground-borne vibration is measured as particle velocity in inches per second and in the U.S. is referenced as vibration decibels (VdB).

The background vibration velocity level in residential is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and heavy traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. Ground- borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies building vibration is perceptible only inside buildings. The general human response to different levels of ground-borne vibration velocity levels is described below in **Table IV.F-2, Human Response to Different Levels of Groundborne Vibration**. The structural effects related to different levels of ground-borne vibration velocity levels are shown below in **Table IV.F-3, Vibration Thresholds for Potential Structural Damage**.

[1] *National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.*

Table IV.F-2
Human Response to Different Levels of Groundborne Vibration

Human Response	Transient (in/sec)	Continuous (in/sec)
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.9	0.1
Severe/Disturbing	2	0.4
Source: Caltrans 2013. *Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.*		

Table IV.F-3
Vibration Thresholds for Potential Structural Damage

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.50
II. Engineered concrete and masonry (no plaster)	0.30
III. Non-engineered timber and masonry buildings	0.20
IV. Buildings extremely susceptible to vibration damage	0.12
Source: FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018.	

3. ENVIRONMENTAL SETTING

A. Existing Noise Levels

The Project Site is located in the northwestern area of the City of Chino Hills on the west side of Canyon Hills Road. The existing land uses in closest proximity to the Project Site are low density residential development to the north, south, and east of the property boundaries. Undeveloped hillsides are adjacent to the property on the west and further west is the Saint Joseph Hill of Hope, a religious institution. Specifically, to the north and east is the gated Oak Tree Downs Community, which encompasses single-family homes on half-acre to over one-acre sized lots. The closest properties to the boundaries of the Project Site are on the east side of Canyon Hills Road. To the south of the Project Site is the Hillcrest development, a private gated community of low density single-family homes.

The 85.2 acre Project Site is situated in a rural setting and is currently developed with two existing residences, a barn, stable and fenced pasture. The remainder and vast majority of the land is vacant covered with primarily bare soil, grass, bushes, trees and other native vegetation similar to the adjacent undeveloped hillsides to the west. The closest developed properties to the Project Site are low density single family residential developments.

The closest public use airport to the Project Site is the Chino Airport located approximately two (2) miles east of the City of Chino Hills and 11.1 miles northeast of the Project Site. There are no private airstrips within the City of Chino Hills. The Chino Airport Master Plan indicates that activities at the airport will generate a future CNEL that is less than 55 dB at all locations within the City of Chino Hills. This is well below the City's noise compatibility guidelines for all land uses and therefore sound from airport has no effect on the Project Site. The sound from the airport does not have an effect on noise levels at the Project Site.

The primary source of existing noise in the Project vicinity are motor vehicles (e.g., automobiles, buses, trucks, and motorcycles) along Canyon Hills Road to the east and Carbon Canyon Road/SR 142, approximately 0.8 miles to the south of the Project Site via Canon Hills Road. Motor vehicle noise often creates a sustained noise level.

i) Roadway Noise Levels

Existing vehicular traffic is the main source of noise levels in the Project. In order for a new noise source to be audible, there would need to be a three (3) dBA or greater CNEL noise increase. The traffic volume on any given roadway would need to double in order for a three (3) dBA increase in ambient noise to occur. Currently there are no roadways on the Project Site, the nearest roads are Canyon Hills Road to the east, Esquilime Drive to the north and Summer Canyon to the south. Esquilime Drive and Summer Canyon are destination roadways constructed specifically to serve the gated residential communities of Oak Tree Downs and Hillcrest respectively and travel is sporadic rather than sustained.

Noise impacts related to vehicular traffic were modeled using a version of the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108). Site-specific information is entered, such as roadway traffic volumes, roadway active width, source-to-receiver distances, travel speed, noise source and receiver heights, and the percentages of automobiles, medium trucks, and heavy trucks that the traffic is made up of throughout the day, amongst other variables.

The FHWA Traffic Noise Prediction Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification, width, speed and truck mix, roadway grade and site conditions (hard or soft ground surface).

Existing noise levels were projected to the southeast corner of the Project Site to assess the maximum impact from Canyon Hills Road and SR 142. The ambient noise level is 57 dBA Leq during the day, 51 dBA Leq during the evening, and 49 dB Leq at night. The CNEL level is 58 dBA. Ambient noise levels are 58 dBA Leq during peak hours. The primary source of ambient noise in and around the Project Site is traffic from Canyon Hills Road. As previously discussed above, environmental noise levels are generally considered low when the L_{dn} is below 60 dBA and moderate in the 60–70 dBA range. Thus, existing environmental noise levels on the Project Site are low.

ii) Existing Groundborne Vibration Levels

Aside from periodic construction work occurring throughout the City, other sources of groundborne vibration in the vicinity of the Project Site are limited to occasional heavy-duty vehicular travel (refuse trucks, delivery trucks, etc.) on nearby roadways.

B. Noise and Vibration Sensitive Receptors

Noise sensitive land uses are those uses that have associated human activities that may be subject to stress or significant interference from noise. Such uses include residential uses (single and multi-family and other lodging) public or private schools, places of worship, cemeteries, libraries, hospitals and similar health care institutions. The closest noise sensitive receptors to the Project Site are the residential uses along within the Oak Tree Downs Community to the 76 feet to the east and 30 feet to the north of the property.

C. Regulatory Framework

Noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

i) Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being constructed adjacent to a highway or that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

ii) State Regulations

The California Department of Health Services Office of Noise Control (ONC) has established guidelines and regulatory tools for evaluating the compatibility of various land uses as a function of community noise exposure and to control and abate noise for use by local agencies. In addition, Section 65302(f) of the California Government Code requires each county and city in the state to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(g) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to

relatively high levels of transportation-related noise. The City of Chino Hills also requires single family residences to be subject to the same standards. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL in any habitable room. Where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL, the standards require an acoustical analysis demonstrating how dwelling units have been designed to meet the interior standard. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

As indicated above a jurisdiction's noise element must recognize the land use compatibility guidelines published by the State Department of Health Services based on a "Land Use Compatibility for Community Noise Environments Matrix." The matrix allows the local jurisdiction to clearly delineate the compatibility of sensitive uses with various incremental levels of noise. The guidelines typically rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The 2015 Chino Hills General Plan updated the matrix, and instead lists compatible uses by set exterior and interior limits as identified below in **Table IV.F-4, Noise Standards by Land Use** (Table 7-1 of the City's general plan).

Table IV.F-4
Noise Standards by Land Use

Land Use Categories		CNEL	
Categories	**Compatible Uses**	**Interior[a]**	**Exterior[b]**
Residential	Single-Family, Duplex, Multiple-Family	45[3]	65[d]
	Mobile Homes	--	65[e]
Commercial	Hotel, Motel, Transient Lodging	45[c]	65
	Commercial, Retail, Bank, Restaurant, Health Clubs	55	--
	Office Buildings, Research & Development, Professional Offices	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall, Movie Theater	45	--
	Gymnasium (multi-purpose)	50	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
Open Space	Parks	--	65
Institutional/ Public Facility	Hospital, Schools, Classrooms	45[c]	65
	Churches, Libraries	45[c]	--

Notes:
a. Interior environment excludes bathrooms, toilets, closets and corridors
b. Outdoor environment limited to private yard of single-family or multiple-family residential private patio that is accessed by means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel/motel recreation area
c. Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to UBC requirements.
d. Multifamily developments with balconies that do not meet the 65 dB CNEL standard are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
e. Exterior noise level shall be such that interior noise level will not exceed 45 dB.

Source: City of Chino Hills Noise Element (2015), Table 7-1.

iii) Local Regulations

The City of Chino Hills outlines its noise regulations and standards within the Noise Element of the General Plan and the Noise Ordinance from the Municipal Code.

1) City of Chino Hills Noise Element/General Plan

The Noise Element of the City of Chino Hills General Plan addresses the issue of noise by identifying sources of noise in the City and providing objectives and policies that ensure that noise from various sources would not create an unacceptable noise environment.

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan Noise Element. Table 7-1 (**Table IV.F-4**, above) of the City's Noise Element outlines the interior and exterior noise standards for community noise environments. Single-family exterior spaces may not exceed 65 dBA CNEL, and interior spaces may not exceed 45 dBA CNEL.

In addition to the noise standards, the City has outlined goals, policies, and implementation measures to reduce potential noise impacts and are presented below:

Goal N-1: Manage Existing Noise Sources

Policy N-1.1: Protect public health and welfare by eliminating or minimizing the effects of existing noise problems.

- **Action N-1.1.1:** Control noise conditions in Chino Hills through the active, ongoing efforts of the City in coordination with other government agencies.
- **Action N-1.1.5:** Minimize through vehicular traffic in the City's residential areas.
- **Action N-1.1.6:** Enforce state motor vehicle noise standards for cars, trucks, and motorcycles.
- **Action N-1.1.7:** Incorporate sound attenuation measures in residential developments to achieve the City's standards. Such sound attenuation measures may include noise barriers, replacing existing windows and doors with sound-rated assemblies, insulating exterior walls and attics, and/or installing forced air ventilation.

Goal N-2: Limit New Noise Conflicts

Policy N-2.1: Minimize increases in noise levels due to new land use and transportation facility decisions.

- **Action N-2.1.1:** Enforce the standards of Table 7-1 – Land Use/Noise Compatibility Matrix, which specify acceptable exterior and interior noise limits for various land uses throughout the City.
- **Action N-2.1.2:** Continue to assess projects through the subdivision, site plan, conditional use permit, and other development review processes and incorporate conditions of approval and mitigation measures that ensure noise compatibility where appropriate.
- **Action N-2.1.5:** Ensure all new developments provide adequate sound insulation or other protection from existing and projected noise sources.

- **Action N-2.1.7:** Ensure that all new hotels, motels, multifamily and single-family dwellings to be developed within an area where the outdoor CNEL exceeds 60 dB are designed to achieve an indoor CNEL of 45 dB or less.

2) City of Chino Hills Noise Ordinance/Municipal Code

Section 16.48.020 and Chapter 8.08 of the City's Municipal Code outline the City's noise and vibration ordinances.

a) Section 8.08.020 – Regulation of Construction Noise

A. Except when necessary for the immediate preservation of life, health, or property, no person shall construct, repair, remodel, demolish, or grade any real property or structures thereon at any time other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between 8:00 a.m. and 6:00 p.m. on Saturdays, excluding federal holidays. Notwithstanding the foregoing, an individual residential property owner or tenant in addition to the above permissible hours of construction may also construct, repair, or remodel his or her real property or any structure on such property during the hours of 7:00 p.m. and 10:00 p.m. on weekdays and between 6:00 p.m. and 10:00 p.m. on Saturdays, and between the hours of 8:00 a.m. and 10:00 p.m. on Sundays and federal holidays provided that the noise or sounds associated with such activities cannot be heard by a reasonable person beyond the boundary lines of the property.

b) Section 16.48.020 – Noise

Applicable noise exemptions in Section 16.48.020 of the City's Municipal Code are listed below.

A. Exemptions.

2. Temporary noise created by emergency machinery, vehicles, or work.

3. Warning devices necessary for the protection of public safety (e.g. police, fire, and ambulance sirens).

4. Construction and maintenance-related noise when conducted in accordance with Section 8.08.020.

D. Vibration. Notwithstanding other sections of this chapter, it shall be unlawful for any person to create, maintain, or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located, if known, unless a temporary permit for the activity creating the vibration is issued by the City. For the purpose of this section, the perception threshold shall be presumed to be more than 0.05 inch per second RMS vertical velocity.

E. Exterior Sound Level Limits.

Table IV.F-5, Exterior Noise Standards for Receiving Land Uses, is the Noise Standards table for the City of Chino Hills.

Table IV.F-5
Exterior Noise Standards for Receiving Land Uses

			Maximum Permitted Exterior Sound Pressure Level, Leq (dBA)
Zone	**Land Use of Receiving Property**	**7 a.m. to 10 p.m.**	**10 p.m. to 7 a.m.**
I	Single-Family Residential	60 dBA	45 dBA
II	Multi-Family Residential, Mobile Home Parks	65 dBA	45 dBA
III	Commercial Property and Institutional Property	70 dBA	60 dBA
IV	Residential Portion of Mixed Use	65 dBA	45 dBA
V	Manufacturing and Industrial, Other Uses	75 dBA	70 dBA

[a] *The city's noise element includes a noise compatibility matrix with community noise equivalent level (CNEL) and is intended to apply to long term ambient noise levels that are produced by sources such as traffic and evaluated over twenty-four (24) hours. Table 1 includes noise standards levels in terms of Leq. These levels are applicable to sounds that have shorter durations than twenty-four (24) hours.*

[b] *If the ambient noise level exceeds the maximum permitted sound level indicated in the table, the applicable maximum permitted sound level pressure shall be three (3) dB above the ambient noise level.*

[c] *Measurements for compliance are made on the affected property pursuant to the details in section C. noise level measurements, 2. Exterior noise level measurements*

Source: Chino Hills Municipal Code Section Chapter 16.48.020 – Noise, Table 16.48-1 Exterior Noise Standards for Receiving Land Uses.

1. It is unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise, on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on any other receiving property, to exceed the following:

a. The noise standard in the above table for a cumulative period of more than thirty (30) minutes in any hour; or

b. The noise standard in the above table plus five (5) dBA for a cumulative period of more than fifteen (15) minutes in any hour; or

c. The noise standard in the above table plus ten (10) dBA for a cumulative period of more than five (5) minutes in any hour; or

d. The noise standard in the above table plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or

e. The noise standard in the above table plus twenty (20) dBA for any period of time.

Each of the maximum permitted sound levels specified above shall be reduced by five (5) dBA for impulsive noises, tonal noises, and noises consisting of speech or music.

F. Residential Interior Sound Level Limits.

1. Limits from Adjacent Properties. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration, no noise source, including, but not limited to, fixed noise sources or sound amplifying equipment, may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed forty-five (45) dBA between the hours of 10:00 p.m. to 7:00 a.m. or fifty-five (55) dBA between the hours of 7:00 a.m. to 10:00 p.m.

2. Multifamily Limit from Adjacent Units. Within multi-unit residential properties, no person shall produce or allow to be produced by any device a noise that results in a perceptible increase in sound level (an increase of at least three (3) dBA) above the local ambient sound level in another unit on the same multi-family property between the hours of 10:00 p.m. and 7:00 a.m. The sound level in the receiving unit shall be measured with the windows and doors of the dwelling unit closed. The windows and doors of the dwelling unit in which the noise source or sources may be located shall be open during the sound level measurement, if possible.

3. Measurements for compliance are made on the affected property pursuant to the details in section C. noise level measurements, 3. interior noise level measurements.

4. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Thresholds of Significance

Appendix G of the CEQA Guidelines provides a set of screening questions that address impacts related to noise. Specifically, the Guidelines state that a proposed Project may have a significant adverse noise or vibration impact if the project would result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

b) Generation of excessive ground-borne vibration or ground-borne noise levels;

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

The following impact analysis addresses questions (a) through (c) listed above and assesses future noise impacts to and from the Project Site comparing the the results to the City's Noise Standards contained in the Municipal Code and the Noise Element of the General Plan as previously discussed above.

The project would have a significant impact under question (a) if:

- Exterior noise level exceeded 65 dBA CNEL and/or the interior noise level exceeded 45 dBA CNEL as outlined in **Table IV.F-4** above (Table 7-1 of the General Plan);
- Construction occurred outside of permissible hours (7 AM to 7 PM on weekdays and 8 AM to 6 PM on Saturdays) as outlined in 8.08.020 of the Municipal Code) and if noise levels were above 80 dBA Leq daytime criteria presented by the FTA.
- The traffic noise levels would increase 3 dB as a result of the Project.

The project would have a significant impact under question (b) if:

- Construction vibration exceeded 0.2 in/sec measured at the property line as outlined in 16.48.030 of the Municipal Code.

The project would have a significant impact under question (c) if:

- The project site was within two miles of a public or private airstrip and exposed people to excessive noise levels above 65 dBA CNEL for exterior spaces and 45 dBA CNEL for interior spaces as outlined in **Table IV.F-4** above (Table 7-1 of the General Plan).

B. Methodology

This analysis of the future noise environments and the impact of the proposed Project is based on noise prediction modeling. Noise modeling data are included in Appendix G to this Draft Focused EIR.

i) Construction Noise Levels

Noise levels associated with each phase of construction were modeled utilizing worksheets based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RNCM), together with several key construction parameters. Key model inputs include; the distance to the sensitive receiver, equipment usage, percentage usage factor, and baseline parameters for the Project Site. Construction and demolition noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. Construction noise is expected to be loudest during the grading, concrete, and building phases of construction. The construction noise calculation output worksheet is located in Appendix G.

ii) Operational Noise Levels

Traffic noise from vehicular traffic was projected using a computer program that replicates the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Roadway volumes and percentages correspond to the Traffic Study as projected by Linscott, Law & Greenspan, Engineers (August 2021). The referenced traffic data was applied to the model which is in contained in an appendix (Appendix H) to the Noise Impact Study by MD Acoustics, LLC attached as Appendix G to this Draft Focused EIR. The following outlines the key adjustments made to the REMEL for the roadway inputs:

- Roadway classification – (e.g., freeway, major arterial, arterial, secondary, collector, etc.)
- Roadway Active Width – (distance between the center of the outermost travel lanes on each side of the roadway)
- Average Daily Traffic Volumes (ADT), Travel Speeds, Percentages of automobiles, medium trucks, and heavy trucks
- Roadway grade and angle of view
- Site Conditions (e.g., soft vs. hard)
- Percentage of total ADT which flows each hour throughout a 24-hour period

Table IV.F-6, Roadway Parameters and Vehicle Distribution indicates the roadway parameters and vehicle distribution utilized for this study.

Table IV.F-6
Roadway Parameters and Vehicle Distribution

Roadway	Existing ADT	2040 ADT[a]	2040 Plus Project ADT	Speed (MPH)	Site Conditions
Canyon Hills Road	700	700	1,200	25	Soft
SR-142	12,400	27,700	28,000	50	Soft
Vehicle Distribution (Truck Mix) Canyon Hills Road[b]					
Motor Vehicle Type		**Daytime % (7AM-7PM)**	**Evening % (10PM-7AM)**	**Night % (10PM-7AM)**	**Total % of Traffic Flow**
Automobiles		77.5	12.9	9.6	94.66
Medium Trucks		84.8	4.9	10.3	2.67
Heavy Trucks		86.5	2.7	10.8	2.67
Vehicle Distribution (Truck Mix) SR-142[b]					
Motor Vehicle Type		**Daytime % (7AM-7PM)**	**Evening % (10PM-7AM)**	**Night % (10PM-7AM)**	**Total % of Traffic Flow**
Automobiles		77.5	12.9	9.6	98.77
Medium Trucks		84.8	4.9	10.3	1.14
Heavy Trucks		86.5	2.7	10.8	0.09

Notes:
a. Per Traffic Study August 31, 2021.
b. Vehicle Distribution is based on typical Southern California Mix data and Traffic Study.
Source: Paradise Ranch Project Noise Impact Study, MD Acoustics, LLC October 25, 2021.

The following outlines key adjustments to the REMEL for Project Site parameter inputs:

- Vertical and horizontal distances (Sensitive receptor distance from noise source)
- Noise barrier vertical and horizontal distances (Noise barrier distance from sound source and receptor)
- Traffic noise source spectra
- Topography

MD Acoustics projected the traffic noise levels to the on-site receptors. The Project noise calculation worksheet outputs are located in Appendix G.

iii) Ground-borne Vibration

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

PPVequipment = PPVref (100/Drec)n

Where: PPVref = reference PPV at 100 feet
Drec = distance from equipment to receiver in feet
n = 1.1 (the value related to the attenuation rate through the ground)

C. Project Impacts and Mitigation Measures

Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact Analysis:

Impact F-1: Based on compliance with Section 8.08.020 of the Chino Hills Municipal Code, impacts with respect to construction noise would not exceed standards established in the City's Noise Ordinance. With regard to noise impacts, operation of the proposed Project would not generate a substantial temporary or permanent increase in ambient noise levels due to vehicles on roadways in the Project vicinity or stationary noise sources. The impact of the proposed Project would be less than significant.

The Proposed Project would subdivide an 85.2-acre property into a total of 51 lots. The Project would include the development of 50 cluster lots ranging in size from 7,200 to 12,412 square feet. Each of the 50 lots would include the development of a two-story single-family residential home. The dwelling units would range in size from 3,946 to 4,616 square feet of living area (including three-car garages). The residential uses would include six architectural styles and four different floor plans for each style. Lot 51 will maintain the existing single-family home, and Lot A will remain as vacant native land.

Construction activities within the Project area will consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, building, paving, and architectural coating. Construction will take approximately 2 years and 8 months.

The degree of construction noise may vary for different areas of the Project Site and also vary depending on the construction activities. Noise levels associated with the construction will vary with the different phases of construction.

The Environmental Protection Agency (EPA) has compiled data regarding the noise-generated characteristics of typical construction activities. The data is presented in **Table IV.F-7, Typical Construction Noise Levels**.

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels will be the loudest during the grading phase.

Table IV.F-7
Typical Construction Noise Levels

Type	Noise Level in (dBA) at 50 Feet [a]
Equipment Powered by Internal Combustion Engines	
Earth Moving	
Compactor (Rollers)	73-76
Front Loaders	73-84
Back Hoes	73-92
Tractors	75-95
Scrapers/Graders	78-92
Pavers	85-87
Trucks	81-94
Materials Handling	
Concrete Mixers	72-87
Concrete Pumps	81-83
Cranes (movable)	72-86
Cranes (derrick)	85-87
Stationary	
Pumps	68-71
Generators	71-83
Compressors	75-86
Impact Equipment	
Saws	71-82
Vibrators	68-82
Source: Paradise Ranch Project Noise Impact Study, MD Acoustics, LLC October 25, 2021.	

Construction activities are anticipated to include six phases site preparation, grading, building construction, paving, and architectural coating. Noise levels at each receptor are shown in **Table IV.F-8, Construction Noise Levels by Phase (dBA)**. The levels are projected from the center of the closest Proposed Project single-home plot to the existing residential property line. The construction noise calculation output worksheet is located in Appendix G.

Table IV.F-8
Construction Noise Level by Phase (dBA)

Activity	Leq at 129 Feet (East Residences)	Leq at 96 feet (North Residence)
Site Preparation	76	80
Demolition	75	78
Grading	77	80
Building Construction	75	78
Paving	76	80
Architectural Coating	64	68
Note: All construction equipment was modeled from the center of the Project Site. *Source: Paradise Ranch Project Noise Impact Study, MD Acoustics, LLC October 25, 2021.*		

As shown in **Table IV.F-8**, construction noise will range between 64 and 80 dBA Leq at nearby sensitive receptors during construction activity near to the adjacent sensitive receptors. Levels will be quieter during construction on lots further from the residential receptors. The levels comply with the 80 dBA Leq criteria from the FTA Transit Noise and Vibration Impact Assessment Manual for daytime residential construction levels.

Construction operations must follow the City's Municipal Code, Section 8.08.020 which states that construction work performed must only occur within the permissible hours of 7 a.m. to 7 p.m. on weekdays and 8 a.m. to 6 p.m. on Saturdays, excluding federal holidays. Additionally, to ensure that construction activities do not disrupt the adjacent land uses, the following best practices will be taken:

- During construction, the contractor should ensure all construction equipment is equipped with appropriate noise attenuating devices.
- The contractor should locate equipment staging areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the Project Site during all construction activities.
- Idling equipment should be turned off when not in use.
- Equipment should be maintained so that vehicles and their loads are secured from rattling and banging.

Construction noise is short-term and would be considered significant if construction activities are taken outside the allowable times as described in the City's Municipal Code (Section 8.08.020), as construction noise is explicitly exempt from the noise regulations in Section 16.48.020. The short-term increase would be considered substantial if the levels were above the 80 dBA Leq daytime threshold presented by the FTA. Construction is anticipated to occur in compliance with Section 8.08.020 of the Chino Hills Municipal Code during permissible hours. Construction noise levels are anticipated to meet the FTA daytime residential noise criteria. Thus, impacts associated with construction noise would be less than significant. No mitigation measures are required.

i) Noise Impacts to Off-Site Receptors Due to Project Generated Traffic

A worst-case Project-generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. Traffic noise levels were calculated 50 feet from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without Project conditions. In addition, the noise contours for 60, 65, and 70 dBA CNEL were calculated. The potential off-site noise impacts caused by an increase of traffic from the operation of the proposed Project on the nearby roadways were calculated for the following scenarios:

- 2040 (without Project): This scenario refers to 2040 traffic noise conditions.
- 2040 (Plus Project): This scenario refers to 2040 + Project traffic noise conditions.

Table IV.F-9, 2040 Scenario - Noise Levels Along Roadways (dBA CNEL) compares the without and with Project scenario and shows the change in traffic noise levels as a result of the Proposed Project. As previously established, it takes a change of 3 dB or more to hear a perceptible difference. As demonstrated

in **Table IV.F-9**, the Project is not anticipated to not generate change greater than 3 dB in the noise CNEL level.

Table IV.F-9
2040 Scenario - Noise Levels Along Roadways (dBA CNEL)

Roadway	Segment	CNEL at 50' (dBA)	Distance to Contour (Feet)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
2040 Without Project Exterior Noise Levels						
Canyon Hills Rd	West of SR-142	51.4	3	6	13	29
SR-142	Canyon Hills Rd to Chino Hills Pkwy	70.0	50	108	232	499
2040 With Project Exterior Noise Levels						
Canyon Hills Rd	West of SR-142	53.7	4	9	19	41
SR-142	Canyon Hills Rd to Chino Hills Pkwy	70.0	50	108	234	503

Change in 2040 Noise Levels as a Result of Project					
Roadway	**Segment**	**CNEL at 50' dBA[a,b]**			
		Existing w/o Project	**Existing w/Project**	**Change in Noise Level**	**Potential Significant Impact**
Canyon Hills Rd	West of SR-142	51.4	53.7	2.3	No
SR-142	Canyon Hills Rd to Chino Hills Pkwy	70	70	0	No

Note:
[a] *Exterior noise levels calculated at 5 feet above ground level.*
[b] *Noise levels calculated from centerline of subject roadway.*
Source: Paradise Ranch Project Noise Impact Study, MD Acoustics, LLC October 25, 2021.

The change in noise level is less than significant as a 2.3 dBA noise increase is projected, which is below a just perceptible difference in ambient noise level. The impact is, therefore, less than significant. Existing plus Project, Year 2024 plus Project, and Year 2040 plus Project all have a maximum change in noise level of 2.3 dBA on all affected segments.

ii) Noise Impacts to On-Site Receptors Due to Traffic

Traffic noise from the local roadway network was evaluated and compared to the City's Noise Compatibility Matrix, Table 7-1 of the Noise Element (presented in **Table IV.F-4** above). Per the City's Noise Compatibility Matrix), single family residential uses have an exterior limit of 65 CNEL. The 2040 plus Project combined noise levels of Canyon Hills Rd and SR 142 result in a maximum exterior CNEL of 60.4 dBA on the Project Site. This is below the maximum exterior limits of 65 dBA CNEL. The interior noise level with standard construction for single-family homes would be 40.4 dBA CNEL which is below the 45 dBA CNEL interior standard. The impact is, therefore, less than significant. No mitigation is required.

iii) Stationary Noise Sources

The Project involves the construction of single family residential uses with three car garages. There are no anticipated significant operational noise producers on the site and therefore the impact is less than significant. No mitigation is required.

Mitigation Measures:

None required.

Would the project result generation of excessive groundborne vibration or groundborne noise levels?

Impact Analysis:

Impact F-2: Neither construction nor operation of the proposed Project would generate groundborne vibration levels that would exceed the FTA human annoyance or structural damage thresholds. Impacts associated with ground-borne vibration would be less than significant.

i) Construction-Related Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed Project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is perceptible but below any risk to architectural damage. As identified above under significance thresholds the fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$PPV_{equipment} = PPV_{ref} (100/D_{rec})^n$

Where: PPV_{ref} = reference PPV at 100 feet
D_{rec} = distance from equipment to receiver in feet
n = 1.1 (the value related to the attenuation rate through the ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in **Table IV.F-10, Guideline Vibration Damage Potential Threshold Criteria** (below) provide general guidelines as to the vibration damage potential from vibratory impacts.

Table IV.F-10
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Apr. 2020.

Table IV.F-11, Vibration Source Levels for Construction Equipment gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

Table IV.F-11
Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 ‘	Approximate Vibration Level LV (dVB) at 25’
Pile Driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile Driver (sonic)	0.734 (upper range)	105
	0.170 (typical)	93
Clam Shovel Drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 (in soil)	66
	0.017 (in rock)	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment, 2018.

The closest building to the construction site is 100 ft to the north and east. At a distance of 100 feet, a large bulldozer would yield a worst-case 0.019 PPV (in/sec) which is below the risk of damage and below the 0.05 in/sec limit given in Section 16.48.020 (D) of the Municipal Code. The impact is, therefore, less than significant. No mitigation is required.

Mitigation Measures:

None required.

ii) Operational Vibration

The proposed Project does not include uses that are expected to generate measurable levels of ground-borne vibration during operation of the proposed Project. Therefore, the greatest regular source of project-related ground-borne vibration would be from local trucks making deliveries to the Project Site and trash trucks collecting refuse material. The vibration levels associated with these trucks would be less than the levels associated with large construction equipment and would be generally consistent with existing trucks (i.e., refuse trucks) operating in the Project area and serving the existing uses on the Project Site. Therefore, the operational ground-borne vibration impact would be less than significant.

Mitigation Measures:

None required.

For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project area to excessive noise levels?

Impact Analysis:

Impact F-3: The Project Site is not located within two miles of any airport and thus there would be no impact.

As discussed in **Section VII, Effects Found Not to be Significant** and in the Initial Study (Appendix A of this Draft Focused EIR), the closest airport, the Chino Airport is located approximately 11 miles northeast of the Project Site. Sound from the airport currently has no impact on the Project Site nor would the Proposed Project result in an expansion or planned expansion of airport operations. As such, the Project would not expose people residing or working the in the area to excessive noise levels and thus there would be no impact.

Mitigation Measures:

None required.

5. CUMULATIVE IMPACTS

The cumulative traffic including all cumulative Projects listed in the traffic impact assessment was included for all 2040 and 2040 plus Project traffic noise calculations. As indicated in **Section III, Environmental Setting**, of this Draft Focused EIR, the nearest Related Projects include Nos. 7 and 17, which are residential uses located on Carbon Canyon Road. None of the Related Projects would share adjacent street frontages with the Project Site. Related Project No. 7, Woodbridge Pacific Group (Canyon Hills/Hillcrest), a future residential development, is located northwest of Carbon Canyon Road and west of Canyon Hills Road. Related Project 17, Hidden Oaks, also a future residential development, is located east of Carbon Canyon Road at Canyon Hills Road across SR 142. Both sites are approximately 1,000 to 1,200 ft away from the Project Site. These two related project sites and other future sites are too far to have a cumulative impact from operational and construction noise. Therefore, impacts are less than significant, and no mitigation is required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project level impacts related to noise would be less than significant.

Cumulative impacts related to noise would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
G. TRANSPORTATION

1. INTRODUCTION

This section of the Focused EIR analyzes the Project's effects related to Transportation. The analysis is based on the Traffic Study Paradise Ranch Chino Hills, California (Traffic Study) prepared by Linscott, Law & Greenspan, Engineers Inc., March 21, 2022. A copy of this report is provided in Appendix H.1 of this Draft Focused EIR.

The analysis of Vehicle Miles Traveled (VMT) is based on the Vehicles Miles Traveled Analysis for the Proposed Paradise Ranch Residential Project-Chino Hills, California (VMT Analysis) prepared by Linscott, Law & Greenspan, Engineers Inc., August 9, 2021. A copy of this report is provided in Appendix H.2 of this Draft Focused EIR. A Supplemental Vehicles Miles Traveled Analysis was also prepared for the Proposed Paradise Ranch Residential Project-Chino Hills, California (Supplemental VMT) prepared by Linscott, Law & Greenspan, Engineers Inc., October 7, 2022. A copy of this report is provided in Appendix H.3 of this Draft Focused EIR.

2. ENVIRONMENTAL SETTING

A. Project Site

The approximately 85.2-acre Project Site is in a rural area at 16200 and 16220 Canyon Hills Road in the City of Chino Hills. The Project Site encompasses Assessor's Parcel Numbers (APNs) 1000-051-09 and 1000-051-19 and is bounded by single-family residential to the north, south and east, and by undeveloped land to the west. Esquilime Drive is located further north of the Project Site, undeveloped hillsides and Saint Joseph Hill of Hope (a religious institution) are located further west of the Project Site, and Summer Canyon is located further south of the Project Site (see **Figure II-1, Regional and Vicinity Map**). Vehicular access to the proposed Project will be provided via two unsignalized driveways located on Canyon Hills Road, south of Spring Creek Way.

Regional access to the Project Site is provided by SR 142/Carbon Canyon Road located approximately 0.8 miles to the south of the Project Site via Canon Hills Road. Local access to the Project Site is provided via Canyon Hills Road. The OmniRide microtransit service serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.

The Project is expected to be constructed in several phases over the next couple of years by 2025, but is dependent on several factors, including the Project funding and market conditions. Hence, Year 2025 will be utilized to assess the full Project's potential opening year (full buildout/occupancy) traffic impacts within a near-term cumulative traffic setting to provide a conservative assessment.

B. Existing Conditions

The Project Site is currently split into two lots, one located at 16200 Canyon Hills Road (Parcel 1 of Parcel Map 2949) in the northeastern portion of the Project Site, and one located at 16220 (remainder parcel) in the western portion of the Project Site. The 10.71-acre lot located at 16200 Canyon Hills Road was built in the 1920s and is developed with an approximately 1,250-square foot, three-bedroom single-family

home, a barn, stables, and fenced pasture.[1] The 71.9-acre lot located at 16220 Canyon Hills Road was built in the 1915 and is developed with an approximately 1,180-square foot, two-bedroom residential home.[2] This residential home at 16220 Canyon Hills Road will remain on-site as Lot Number 51. The rest of the area is undeveloped, hillside slopes, and is covered with native and non-native vegetation. The hillsides and undeveloped area to the west which make up Lot A will remain vacant. Elevations range from a low of approximately 959 feet to a high of approximately 1,256 feet.

C. Existing Transportation System

The principal local network of streets serving the Project Site consists of SR 142/Carbon Canyon Road, Chino Hills Parkway, and Canyon Hills Road. The following discussion provides a brief synopsis of these key area streets.

i) Existing Street Network

Carbon Canyon Road (SR-142) is generally a north-south, two-lane undivided roadway. The posted speed limit on Carbon Canyon Road is 50 miles per hour (mph). On-street parking is not permitted on either side of the roadway. The intersection of Carbon Canyon Road at Canyon Hills Road is stop-controlled, whereas the intersection of Carbon Canyon Road at Chino Hills Parkway is controlled by a traffic signal. The City of Chino Hills Bicycle Master Plan identifies Carbon Canyon Road as a Class II bicycle facility north of Old Canyon Road, and a Class III bike route south of Old Canyon Road.

Chino Hills Parkway is generally an east-west, four-lane divided roadway within the vicinity of the Project. The posted speed limit on Chino Hills Parkway is 45 mph. On-street parking is not permitted on either side of the roadway. Per the City of Chino Hills General Plan Circulation Element, Chino Hills Parkway is considered a State Route east of Carbon Canyon Road and a Minor Arterial west of Carbon Canyon Road. The intersection of Carbon Canyon Road at Chino Hills Parkway is controlled by a traffic signal. The City of Chino Hills Bicycle Master Plan identifies Chino Hills Parkway as a Class II bicycle facility.

Canyon Hills Road is generally an east-west, two-lane undivided roadway located to the east of the Project Site. The prima facie speed limit on Canyon Hills Road is 25 mph. On-street parking is not permitted on either side of the roadway. The intersection of Carbon Canyon Road at Canyon Hills Road is stop-controlled.

ii) Existing Transit System

Public transit bus service is provided in the Project area by OmniTrans, a public transportation agency in San Bernardino County. In September 2020, OmniTrans launched a new micro transit service known as OmniRide, which is a reservation-based, on-demand transit service similar to that of Uber and Lyft. Trips can be reserved either over the phone or by using the OmniRide On-Demand mobile app between the hours of 6:00 a.m. and 8:00 p.m. on weekdays only. The OmniRide service will pick-up and drop-off at a "virtual stop"; the nearest virtual stops located within the Project vicinity are at Canyon Hills Road/Summer Canyon and Highland Pass Road/Greens Drive.

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[1] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-09-0-000.*

[2] *San Bernardino County Property Information Management System for Assessor Parcel Number 1000-051-19-0-000.*

It should be noted that OmniRide replaced the OmniGo Route 365 and the Access ADA Service which previously served the Chino and Chino Hills communities. A modified Route 365 is planned to remain, in a post-COVID-19 environment, to provide school tripper service to Chino Hills High School students.

D. Regulatory Setting

i) Federal Regulations

1) Americans with Disabilities Act of 1990

Titles I, II, III, and V of the Americans with Disabilities Act (ADA) have been codified in Title 42 of the United States Code (USC), beginning at Section 12101. Title III prohibits discrimination based on disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Appendix A through Part 36 (Standards for Accessible Design), establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. Examples of key guidelines include detectable warnings for pedestrians entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

ii) State Regulations

1) Complete Streets Act

Assembly Bill (AB) 1358, the Complete Streets Act (Government Code Sections 65040.2 and 65302), was signed into law by Governor Arnold Schwarzenegger in September 2008. As of January 1, 2011, the law requires cities and counties, when updating the part of a local general plan that addresses roadways and traffic flows, to ensure that those plans account for the needs of all roadway users. Specifically, the legislation requires cities and counties to ensure that local roads and streets adequately accommodate the needs of bicyclists, pedestrians and transit riders, as well as motorists.

At the same time, the California Department of Transportation (Caltrans), which administers transportation programming for the State, unveiled a revised version of Deputy Directive 64 (DD-64-R1 October 2008), an internal policy document that now explicitly embraces Complete Streets as the policy covering all phases of State highway projects, from planning to construction to maintenance and repair.

2) Assembly Bill 32 and Senate Bill 375

With the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing Statewide greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32.

On December 11, 2008, CARB adopted its Scoping Plan for AB 32. This scoping plan included the approval of Senate Bill (SB) 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

There are five major components to SB 375. First, regional GHG emissions targets: California ARB's Regional Targets Advisory Committee guides the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose

themselves, are updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs are required to prepare a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on 8-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Certain residential or mixed-use projects qualify if they conform to the SCS. Transit-oriented developments (TODs) also qualify if they (1) are at least 50% residential, (2) meet density requirements, and (3) are within 0.5 mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC). Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

3) California Vehicle Code

The California Vehicle Code (CVC) provides requirements for ensuring emergency vehicle access regardless of traffic conditions. Sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.

4) Senate Bill 743

On September 27, 2013, Governor Jerry Brown signed SB 743, which went into effect in January 2014. SB 743 directed the Governor's Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines by July 1, 2014 to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic LOS. This started a process that changes transportation impact analysis under CEQA. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts for land use projects and plans in California. Additionally, as discussed further below, as part of SB 743, parking impacts for particular types of development projects in areas well served by transit are not considered significant impacts on the environment. According to the legislative intent contained in SB 743, these changes to current practice were necessary to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

On January 20, 2016, OPR released the *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, which was an update to *Updating Transportation Impacts Analysis in the CEQA Guidelines, Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743*, which was released on August 6, 2014. Of particular relevance was the updated text of the proposed new CEQA Guidelines Section 15064.3 that relates to the determination of the significance of

transportation impacts, alternatives, and mitigation measures. Specifically, CEQA Guidelines Section 15064.3, which is discussed further below, establishes VMT as the most appropriate measure of transportation impacts. In November 2018, the California Natural Resources Agency (CNRA) finalized the updates to the CEQA Guidelines and the updated guidelines became effective on December 28, 2018.

5) CEQA Guidelines Section 15064.3

As discussed above, recent changes to the CEQA Guidelines include the adoption of Section 15064.3, *Determining the Significance of Transportation Impacts*. CEQA Guidelines Section 15064.3 establishes VMT as the most appropriate measure of transportation impacts. Generally, land use projects within 0.5 miles of either an existing major transit stop[3] or a stop along an existing high quality transit corridor[4] should be presumed to cause a less than significant transportation impact. Projects that decrease VMT in the project area compared to existing conditions should be presumed to have a less than significant transportation impact. A lead agency has discretion to choose the most appropriate methodology to evaluate VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may also use models to estimate VMT, and may revise those estimates to reflect professional judgment based on substantial evidence.

iii) Regional Regulations

1) Southern California Association of Governments 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy

In compliance with SB 375, on September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), a long-range visioning plan that incorporates land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern while meeting GHG reduction targets set by CARB. The 2020-2045 RTP/SCS contains baseline socioeconomic projections that are used as the basis for SCAG's transportation planning, as well as the provision of services by the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG policies are directed towards the development of regional land use patterns that contribute to reductions in vehicle miles and improvements to the transportation system.

The 2020-2045 RTP/SCS builds on the long-range vision of SCAG's prior 2016-2040 RTP/SCS to balance future mobility and housing needs with economic, environmental and public health goals. A substantial concentration and share of growth is directed to Priority Growth Areas (PGAs), which include high quality transit areas (HQTAs), Transit Priority Areas (TPAs), job centers, Neighborhood Mobility Areas (NMAs) and Livable Corridors. These areas account for 4% of SCAG's total land area but the majority of directed growth. HQTAs are corridor-focused PGAs within one 0.5 mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. TPAs are PGAs that are within a 0.5 of a major transit stop that is existing or planned. Job centers are defined as areas with significant higher employment density than

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[3] *"Major transit stop" is defined in Public Resources Code Section (PRC) 21064.3 as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.*

[4] *"High-quality transit corridors" are defined in (PRC)Section 21155 as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.*

surrounding areas which capture density peaks and locally significant job centers throughout all six counties in the region. NMAs are PGAs with robust residential to non-residential land use connections, high roadway intersection densities, and low-to-moderate traffic speeds. Livable Corridors are arterial roadways, where local jurisdictions may plan for a combination of the following elements: high-quality bus frequency; higher density residential and employment at key intersections; and increased active transportation through dedicated bikeways.

The 2020-2045 RTP/SCS' "Core Vision" prioritizes the maintenance and management of the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. Strategies to achieve the "Core Vision" include, but are not limited to, Smart Cities and Job Centers, Housing Supportive Infrastructure, Go Zones, and Shared Mobility. The 2020-2045 RTP/SCS intends to create benefits for the SCAG region by achieving regional goals for sustainability, transportation equity, improved public health and safety, and enhancement of the regions' overall quality of life. These benefits include, but are not limited to, a 5% reduction in VMT per capita, 9 %reduction in vehicle hours traveled, and a 2% increase in work-related transit trips.

iv) Local Regulations

1) *City of Chino Hills General Plan*

The City's General Plan includes various policies related to reducing greenhouse gas emissions. The applicable policies to the Project are listed below.

- **Action C-1.1.3:** Require traffic impact analyses or traffic studies for private and public projects to ensure that discretionary development projects do not cause roadway congestion in excess of acceptable levels of service within Chino Hills, or on CMP roadway links or intersections.

- **Action C-1.1.4:** Require new developments to provide for all roads within their boundaries and to pay their fair share of planned roadway improvement costs.

Policy C-1.2: Create a safe, efficient, and neighborhood-friendly street system.

- **Action C-1.2.3:** Design collector streets to circulate traffic within the neighborhood but discourage through traffic.

- **Action C-1.2.4:** Design local streets to primarily provide access to homes and other properties.

- **Action C-1.2.5:** Require all development projects to meet mandatory standards with regard to vertical and horizontal alignments, access control, rights of way, cross-sections, intersections, sidewalks, curbs and gutters, cul de sacs, driveway widths and grades, right of way dedication and improvements, and curb cuts for the disabled.

- **Action C-1.2.8:** Prohibit direct driveway access from individual residences to major arterials, major highways, secondary highways, and collectors.

- **Action C-1.2.9:** Require driveway placement to be primarily designed for safety and, secondarily, to enhance circulation.

- **Action C-1.2.10:** Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.

- **Action C-1.2.11:** Require adequate off-street parking for all developments.

Goal C-3: Provide Safe and Adequate Pedestrian, Bicycle, and Public Transportation Systems to Provide Alternatives to Single Occupant Vehicular Travel and to Support Land Uses

Policy C-3.1: Encourage the use of public transportation for commute and local, and increase citywide transit ridership.

- **Action C-3.1.1:** Work with OmniTrans and/or other bus providers to expand transit routes serving the City and the surrounding communities.

- **Action C-3.1.2:** Work with OmniTrans and/or other bus providers to assess and provide paratransit services for low-income, elderly, disabled, and other residents in need of access assistance.

- **Action C-3.1.3:** Require bus turn-outs in residential, commercial, and industrial public use areas.

Goal C-5: Ensure an Adequate and Well-Maintained Infrastructure System

Policy C-5.1: Provide adequate infrastructure improvements in conjunction with development.

- **Action C-5.1.1:** Plan and design new roadways and expansion/completion of existing roadways to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right of way.

- **Action C-5.1.2**: Require private and public development projects to be responsible for providing road improvements along all frontages abutting a public street right of way in accordance with the design specifications for that roadway.

2) *City of Chino Hills VMT Guidelines*

1. Purpose

To provide administrative guidelines to ensure the City is in compliance with the methodology, screening criteria, significant impact thresholds, and mitigation measures related to VMT impacts for land use and transportation projects requiring environmental review in compliance with the California Environmental Quality Act (CEQA) and Senate Bill (SB) 743.

This policy is based on the Technical Memorandum, SB 743 Implementation Guidelines for the City of Chino Hills, prepared by Linscott, Law and Greenspan, Engineers, dated March 17, 2022 (Attachment A).

2. Responsibility

2.1 The Community Development Director or designee (referred to herein as Community Development Director) is responsible for the following:

- **2.1.1.** Upon receipt of a project application requiring discretionary approval, to coordinate with the project applicant to determine if a transportation assessment is

required, and to initiate developing a study scope for the purposes of CEQA review and/or non-CEQA operational, safety, parking, design, or construction evaluations.

- **2.1.2.** To coordinate with the Public Works Director or designee to identify the study approach for evaluating transportation impacts, including both VMT and traffic level of service (LOS), for specific land use types other than, and within, the more general residential, office, and retail land use categories, mixed-use development projects, wide-area land use plans, and transportation projects.

- **2.1.3.** To determine, based on this policy, if a project requires a VMT analysis, and the scope of that VMT analysis.

2.2 The Public Works Director or designee (referred to herein as Public Works Director), is responsible for the following:

- **2.2.1.** To ensure that all Capital Improvement Projects (CIP) and maintenance projects that require CEQA documentation are coordinated with the Community Development Director to determine if the project requires a VMT analysis and the scope of that VMT analysis.

- **2.2.2.** When a VMT analysis is required, to coordinate with the Community Development to ensure that the analysis is prepared and processed in accordance with this policy.

- **2.2.3.** To provide the appropriate budget for the VMT analysis as part of the CEQA process for CIP and maintenance projects.

3. Policy

3.1 In compliance with SB 743 requirements, traffic studies prepared in the City that are subject to CEQA will use VMT as the basis for measuring transportation impacts for purposes of CEQA Guideline Section 15064.3, subd. (b), and, where possible, will identify mitigation measures that would reduce VMT impacts to a level of insignificance (VMT impact thresholds are discussed in Section 7.0).

3.2 VMT relates to the automobile trips generated by a project in a day (typically a weekday but may also be better expressed on a weekend day for specific land use categories), multiplied by the estimated number of miles driven for each trip. This number is then divided by the number of residents (VMT per capita) for residential projects, or employees (VMT per employee) for office projects. For retail projects and transportation projects, the Total VMT is evaluated, which is an absolute metric that captures both employee and home-shopping trips. The approach to expressing VMT for other land use types will be identified based on the Community Development Director's interpretation of this policy.

3.3 For land use or transportation projects that may not require CEQA review and analysis because they are exempt or have been screened-out (based on application of screening criteria established in these City guidelines), other types of traffic assessments (i.e., "non-CEQA" analysis) may be deemed necessary and required by the City, in order to meet the objectives

and policies from the General Plan, Municipal Code, Specific Plans, City-adopted transportation plans and programs, and other requirements related to the design and construction of the proposed project.

3.4 The City's General Plan Circulation Element uses LOS as the performance criteria for evaluating transportation impacts and adequacy of the City's circulation system. Even though VMT has been established as the metric for transportation analysis under CEQA, the City will continue to apply LOS significance thresholds for non-CEQA traffic impact assessments, and other relevant City-established criteria for operational, safety and/or parking evaluations deemed necessary by the Public Works Director and Community Development Director for consistency with City transportation plans.

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Thresholds of Significance

Appendix G of CEQA Guidelines provides a set of screening questions that address impacts with regard to transportation. Specifically, the Guidelines state that a project may have a significant impact on transportation if it would:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);

c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

d) Result in inadequate emergency access.

CEQA requires a lead agency to determine the significance of all environmental impacts (Public Resources Code Section 21082.2; CEQA Guidelines Section 15064). For the analysis of consistency with circulation plans, programs, ordinances, and policies; hazardous design features, and emergency access, this EIR utilizes Appendix G of the CEQA Guidelines as the thresholds. The CEQA Guidelines provide that lead agencies may use the questions set forth in the Appendix G of the CEQA Guidelines to assess the significance of the environmental effects associated with a project.

Under the VMT methodology, screening is used to determine if a project will be required to conduct a detailed VMT analysis.

City VMT Impact Thresholds for Land Use Projects

- San Bernardino County Transportation Analysis Model (SBTAM) SBTAM will be utilized to determine the VMT for the project and for the City averages for VMT per Capita (for residential projects or components of a mixed-use development) and/or VMT per Employee (for non-residential projects or components of a mixed-use development).

- Based on the application of the VMT impact analysis methodology, a land use project would be considered to result in a significant VMT impact if the following old is met:

  - A land use project results in a significant VMT impact if the project-generated VMT per Capita or Employee exceeds a level of 3% below the City Average VMT per Capita or Employee under existing baseline conditions (as of the date this policy is adopted).

- Although projects that decrease VMT in the project area compared to existing conditions generally can be presumed to have a less than significant transportation impact (14 CCR § 15064.3(b)(1)), the City establishes an even higher standard in the interest of promoting the maximum practicable/realistic reduction in VMT and, therefore, VMT-related emissions. A threshold for land use projects equal to 3% below the baseline City average VMT per capita or employee is the most realistic, achievable reduction given Chino Hills' unique circumstances.

- Based on the above considerations, the VMT impact threshold established for the City requires that a land use project demonstrate that project-related MT is at least 3% below the baseline City average VMT per Capita or Employee. If this threshold cannot be met, VMT mitigation measures must be identified to reduce the project's VMT impact to a level of insignificance based on that 3% threshold.

- The VMT impact study approach for evaluating specific land use types other than general land use categories, accounting for unique characteristics related to mixed-use development, amendments to the General Plan and Specific Plan projects that are not screened out, and determining whether an alternative VMT metric (i.e., VMT per Service Population) is considered more appropriate for application, will be evaluated on a case-by-case basis and determined by the Community Development Director.

Summarized below are the average VMT/Capita values utilizing SBTAM for the City of Chino Hills and for the Project that was previously presented in the August 2021 Technical Memorandum. However, the thresholds that the Project's potential VMT impact is assessed is based on the City of Chino Hills Administrative Policies and Procedures Manual, VMT Guidelines Implementation Policy (adopted on 4/26/2022).

City VMT Impact Threshold

According to the City's adopted VMT guidelines, a land use project would be considered to result in a significant VMT impact if the following threshold is met:

- A land use project results in a significant VMT impact if the project-generated VMT per Capita or Employee exceeds a level of 3% below the City Average VMT per Capita or Employee under existing baseline conditions (as of the date this policy is adopted).

B. Methodology

i) Traffic Forecasting Methodology

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the Project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the proposed Project is isolated by comparing operational level of significance (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the Project's impacts identified.

ii) Vehicle Miles Traveled (VMT) Analysis Methodology

According to Governor's Office of Planning and Research (OPR), and the City of Chino Hills, Projects that do not screen out based on the aforementioned criteria shall complete a full VMT analysis. SBTAM will be utilized to determine the VMT for the project and for the City averages for VMT per Capita (for residential projects or components of a mixed-use development) and/or VMT per Employee (for non-residential projects or components of a mixed-use development).

Based on the application of the VMT impact analysis methodology, a land use project would be considered to result in a significant VMT impact if the following threshold is met:

- A land use project results in a significant VMT impact if the project-generated VMT per Capita or Employee exceeds a level of 3% below the City Average VMT per Capita or Employee under existing baseline conditions (as of the date this policy is adopted).

Although projects that decrease VMT in the project area compared to existing conditions generally can be presumed to have a less than significant transportation impact (14 CCR § 15064.3(b)(1)), the City establishes an even higher standard in the interest of promoting the maximum practicable/realistic reduction in VMT and, therefore, VMT-related GHG emissions. A threshold for land use projects equal to 3% below the baseline City average VMT per capita or employee is the most realistic, achievable reduction given Chino Hills' unique circumstances.

Based on the above considerations, the VMT impact threshold established for the City requires that a land use project demonstrate that it can reduce existing VMT by at least 3%, and if it cannot accomplish meeting that 3% threshold, VMT mitigation measures must be identified to reduce the project's VMT impact to a level of insignificance based on that 3% threshold.

The VMT impact study approach for evaluating specific land use types other than general land use categories, accounting for unique characteristics related to mixed-use development, amendments to the General Plan and Specific Plan projects that are not screened out, and determining whether an alternative VMT metric (i.e., VMT per Service Population) is considered more appropriate for application, will be evaluated on a case-by-case basis and determined by Community Development Director.

iii) Hazards Due to Design Features Analysis

The analysis evaluates whether the Project would result in hazards due to design features by determining whether the Project would include curved streets with inadequate view distances, unsafe separation of vehicles and pedestrians or bicyclists, and not provide adequate pedestrian crosswalks at intersections.

iv) Emergency Access

The emergency access analysis evaluates whether the Project would comply with City emergency access requirements including those imposed by the City of Chino Hills Valley Fire District regarding adequate turning radii on streets, response distances to buildings, etc.

C. Project Impacts and Mitigation Measures

Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact Analysis:

Impact G-1: The Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The Project would be consistent with the City's General Plan, and SCAG's SCS/RTP. Therefore, impacts would be less than significant.

Planning documents in the City that address transportation include the City of Chino Hills General Plan Circulation Element and the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. The Project's potential to conflict with these policies in analyzed below.

i) City of Chino Hills General Plan

The City's General Plan is a dynamic document consisting of eight elements (Land Use Element, Circulation Element, Housing Element, Conservation Element, Safety Element, Parks, Recreation, and Open Space Element, Noise Element, and Economic Development Element).

1) Circulation Element

The Circulation Element specifies the general location and extent of existing and proposed major streets and other transportation facilities. It also specifies infrastructure facilities that carry water, wastewater, and storm water. The Circulation Element addresses the provision of roadways, transit, bikeways, and other local public infrastructure in the City of Chino Hills (City).

The Circulation Element establishes standards for the design and operation of the City's roadway system, and defines the transportation system needed to meet those standards. The Circulation Element also defines transit services and bikeways to meet the needs of the Chino Hills community. Public infrastructure is also discussed, including water, sewer and storm drainage infrastructure (wet utilities); and electricity, natural gas, and telecommunications infrastructure (dry utilities).

The Project's consistency with applicable goals, policies and actions in the Circulation Element of the General Plan is discussed in the impact analysis below. A detailed list of the goals, policies and actions of the General Plan applicable to the Project is included in **Table IV.G-1, Applicable Goals, Policies, and**

Actions of the General Plan along with a discussion of whether or not the Project does or does not conflict with that particular goal, policy, or action. As shown, the Project will be consistent with the applicable goals, policies, and actions.

Table IV.G-1
Applicable Goals, Policies and Actions of the
General Plan Framework Element

Goals/Policies/Actions	Would the Project Conflict?
Circulation Element	
Action C-1.1.3: Require traffic impact analyses or traffic studies for private and public projects to ensure that discretionary development projects do not cause roadway congestion in excess of acceptable levels of service within Chino Hills, or on CMP roadway links or intersections.	No conflict. The Traffic Study Paradise Ranch Chino Hills, California has been prepared for the Paradise Ranch Project by Linscott, Law & Greenspan, Engineers Inc. on March 21, 2022. A copy of this traffic study is provided in Appendix H.1 of this Draft Focused EIR. The Traffic Study indicates that the on-site circulation layout of the Project in an overall basis is generally adequate. Curb return radii have been confirmed and are generally adequate for small service/delivery (FedEx, UPS) trucks and trash trucks, as well as fire trucks. The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. The overall layout does not create significant vehicle-pedestrian conflict points. As such, motorists entering and exiting the Project site from this driveway would be able to do so comfortably, safely and without undue congestion. The results of the peak-hour traffic signal warrant analysis for Existing, Year 2024, and Year 2040 are summarized in Tables 9-1, 9-2 and 9-3, respectively of Appendix H.1. The results indicate that the intersection of Carbon Canyon Road at Canyon Hills Road does not satisfy the criteria for a traffic signal under Exiting, Year 2024 or Year 2040 traffic conditions. Thus, the Project would not cause roadway congestion in excess of the acceptable levels set forth in the Circulation Element.
Action C-1.1.4: Require new developments to provide for all roads within their boundaries and to pay their fair share of planned roadway improvement costs.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street.
Policy C-1.2: Create a safe, efficient, and neighborhood-friendly street system.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Streets "A" and "C" form a circular system creating a safe and neighborhood friendly street system. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street.

Table IV.G-1
Applicable Goals, Policies and Actions of the
General Plan Framework Element

Goals/Policies/Actions	Would the Project Conflict?
Action C-1.2.3: Design collector streets to circulate traffic within the neighborhood but discourage through traffic.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Streets "A" and "C" form a circular system. The new intersections provide access only to the Project Site and the new streets would not connect through to nearby residential areas. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street.
Action C-1.2.4: Design local streets to primarily provide access to homes and other properties.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street.
Action C-1.2.5: Require all development projects to meet mandatory standards with regard to vertical and horizontal alignments, access control, rights of way, cross-sections, intersections, sidewalks, curbs and gutters, cul de sacs, driveway widths and grades, right of way dedication and improvements, and curb cuts for the disabled.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Development of the Project would meet all mandatory standards with regard to vertical and horizontal alignments, access control, rights of way, cross-sections, intersections, sidewalks, curbs and gutters, cul de sacs, driveway widths and grades, right of way dedication and improvements, and curb cuts for the disabled.
Action C-1.2.8: Prohibit direct driveway access from individual residences to major arterials, major highways, secondary highways, and collectors.	**No conflict.** The Project does not include homes on major or secondary highways. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street.
Action C-1.2.9: Require driveway placement to be primarily designed for safety and, secondarily, to enhance circulation.	**No conflict.** Each house would include a separate driveway connecting the property to one of the three new streets proposed. Placement would be designed for safe access. Driveways are not proposed to enhance circulation. (refer to **Figures II-3, Tentative Tract Map**, and **Figure II-4, Site Plan**)**.**
Action C-1.2.10: Plan access and circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Streets "A" and "C" form a circular system. The new intersections provide access only to the Project Site and the new streets would not connect through to nearby residential areas. Vehicle access to the Project Site

Table IV.G-1
Applicable Goals, Policies and Actions of the
General Plan Framework Element

Goals/Policies/Actions	Would the Project Conflict?
	would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street. The Project has prepared and committed to the practices and design features contained within, a Fire Protection Plan (FPP) to ensure that development of the Project does not impair emergency response to the Project Site or vicinity. All streets would be a minimum of 40 feet in width. Circulation system proposed provides access to all homes for emergency vehicles and trash trucks, and will include pedestrian and bicycle access throughout the development. The Project would provide new sidewalks and around the development, and an equestrian multi-use trail along Canyon Hills Road on the Projects street frontage. This equestrian multi-use trail is a multi-use trail available to walkers, hikers, runners, bicyclists, and equestrians.
Action C-1.2.11: Require adequate off-street parking for all developments.	**No conflict.** The Project is required to provide 150 covered (within garage) parking spaces and 100 uncovered parking spaces per CHMC Title 16, Chapter 16.34.060, Table 65-1, Number of Automobile Parking Spaces Required. The Project includes the development of 250 parking spaces: 150 private garage spaces, and 100 driveway spaces.
Goal C-3: Provide Safe and Adequate Pedestrian, Bicycle, and Public Transportation Systems to Provide Alternatives to Single Occupant Vehicular Travel and to Support Land Uses	**No conflict.** The OmniRide microtransit service serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Streets "A" and "C" form a circular system. The new intersections provide access only to the Project Site and the new streets would not connect through to nearby residential areas. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street. The Project would provide new sidewalks and around the development, and an equestrian multi-use trail along Canyon Hills Road on the Projects street frontage. This equestrian multi-use trail is a multi-use trail available to walkers, hikers, runners, bicyclists, and equestrians.
Policy C-3.1: Encourage the use of public transportation for commute and local, and increase citywide transit ridership.	**No conflict.** The OmniRide microtransit service serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.

Table IV.G-1
Applicable Goals, Policies and Actions of the
General Plan Framework Element

Goals/Policies/Actions	Would the Project Conflict?
Action C-3.1.1: Work with OmniTrans and/or other bus providers to expand transit routes serving the City and the surrounding communities.	**No conflict.** The OmniRide microtransit service serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.
Action C-3.1.2: Work with OmniTrans and/or other bus providers to assess and provide paratransit services for low-income, elderly, disabled, and other residents in need of access assistance.	**No conflict.** The OmniRide microtransit service serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.
Action C-3.1.3: Require bus turn-outs in residential, commercial, and industrial public use areas.	**No conflict.** The Project would have direct access to Canyon Hills Road that provides access to public transit. No public transit would be accessing the Project Site; thus, no bus turn outs are necessary.
Goal C-5: Ensure an Adequate and Well-Maintained Infrastructure System	**No conflict. See Section 4.19 Utilities/Service Systems** of the Initial Study (Appendix A of the Focused EIR), for a discussion of existing and proposed infrastructure.
Policy C-5.1: Provide adequate infrastructure improvements in conjunction with development.	**No conflict.** See **Section 4.19 Utilities/Service Systems** of the Initial Study (Appendix A of the Focused EIR), for a discussion of existing and proposed infrastructure.
Action C-5.1.1: Plan and design new roadways and expansion/completion of existing roadways to allow for co-location of water, sewer, storm drainage, communications, and energy facilities within the road right of way.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Water, Sewer, storm drainage, communication and energy facilities would be provided within the proposed new road right of ways. See Section **4.19 Utilities/Service Systems** of the Initial Study (Appendix A of the Focused EIR), for a discussion of existing and proposed infrastructure.
Action C-5.1.2: Require private and public development projects to be responsible for providing road improvements along all frontages abutting a public street right of way in accordance with the design specifications for that roadway.	**No conflict.** Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the residential homes.
Source: City of Chino Hills General Plan, February 24, 2015. *Source Table: EcoTierra Consulting, 2021.*	

Based on the analysis above, the Project would be substantially consistent with applicable goals, policies, and actions in the Circulation Element of the General Plan that governs the development on the Project Site. Therefore, impacts would be less than significant.

ii) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also known as Connect SoCal. The 2020-2045 RTP/SCS presents a long-term transportation vision through the year 2045 for the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The 2020-2045 RTP/SCS contains baseline socioeconomic projections that are used as

the basis for SCAG's transportation planning, and the provision of services by other regional agencies. SCAG's overarching strategy for achieving its goals is integrating land use and transportation. SCAG policies are directed towards the development of regional land use patterns that contribute to reductions in vehicle miles and improvements to the transportation system. Rooted in past RTP/SCS plans, Connect SoCal's "Core Vision" centers on maintaining and better managing the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. The plans "Key Connections" augment the "Core Vision" to address challenges related to the intensification of core planning strategies and increasingly aggressive greenhouse gas reduction goals, and include but are not limited to, Housing Supportive Infrastructure, Go Zones, and Shared Mobility. Connect SoCal intends to create benefits for the SCAG region by achieving regional goals for sustainability, transportation equity, improved public health and safety, and enhancement of the regions' overall quality of life. These benefits include but are not limited to a 5% reduction in VMT per capita and vehicle hours traveled by 9%, increase in work-related transit trips by 2%, create more than 264,500 new jobs, reduce greenfield development by 29 %, and, building off of the 2019-2040 RTP/SCS, increase the share of new regional household growth occurring in HQTA's by 6% and the share of new job growth in HQTAs by 15%.

Conflicts and consistency of the Project with the RTP/SCS are addressed in **Table IV.G-2, Applicable Goals and Strategies of 2020-2045 RTP/SCS**. Based on the analysis presented in **Table IV.G-2**, the Project would not be in conflict with applicable 2020-2045 RTP/SCS goals and strategies. The Project is located in an area served by the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.

Table IV.G-2
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
G1: Encourage regional economic prosperity and global competitiveness.	**No conflict.** Although this goal is a plan-level goal, the Project would be consistent with this goal by developing additional housing in an area designated for housing. The addition of housing units to the Project Site will create additional customers and visitors to local City businesses, promoting economic prosperity in the area.
G3: Enhance the preservation, security, and resilience of the regional transportation system.	**No conflict.** Although this goal is a plan-level goal, the Project would be consistent with this goal by providing additional housing units with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The additional ridership for the OmniRide microtransit service created by the Project would encourage the economic viability of the transit.
G5: Reduce greenhouse gas emissions and improve air quality.	**No conflict.** Although this goal is a plan-level goal, the Project would incorporate building technologies and design features that would save energy (which would also reduce air emissions associated with electricity generation). Therefore, the Project would reduce potential GHG emissions, improve air quality.
G6: Support healthy and equitable communities.	**No conflict.** Although this goal is a plan-level goal, the Project would be consistent with this goal by providing an

Table IV.G-2
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
	increase in the number of housing units available on the Project Site, in an area with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The Project is located proximate to a transit service, thereby reducing vehicle emissions, and would incorporate building technologies and design features that would save energy (which would also reduce air emissions associated with electricity generation).
G7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	**No conflict.** Although this goal is a plan-level goal, the Project would be consistent with this goal. As detailed in **Section II, Project Description**, of this Draft Focused EIR, the Project residences would be designed to meet the requirements of the most current California Green Building Code and CHMC Section 16.09.090. The Project would include the following water conservation techniques: • Water conserving plants, and plants native to hot, dry summers, utilized in 95% of the total plant area, • Irrigation zones separated by plant material, • Use of hydro zones with plants grouped based on the amount of water needed to sustain them, • Soil amendments utilized to improve water holding capacity of the soil, • Automatic irrigation system adjusted seasonably add with watering hours between 9:00 p.m. and 9:00 a.m., • Irrigation system design to water different areas of the landscape based on watering need, and • Recommendations given for an annual irrigation schedule.
Focus Growth Near Destinations & Mobility Options	
• Focus on regional jobs/housing balance to reduce commute ties and distances and expand job opportunities near transit and along center -focused main streets.	**No conflict.** Though the Project does not expand job opportunities, the Project would be consistent with this strategy by providing additional housing units in an area with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The transit will provide future Project residents with reliable and safe transportation. The additional ridership created by the Project would encourage the economic viability of the transit.

Table IV.G-2
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
Source: Southern California Association of Governments, Connect SoCal - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, adopted for federal transportation conformity purposes only on May 7, 2020. Source Table: EcoTierra Consulting, 2021.	

The Project Site is located adjacent to a mature network of streets that include vehicular facilities. Development of the Project within this established community would promote a variety of travel choices and housing opportunities in the area. The Project would not conflict with RTP/SCS goals to maximize mobility and accessibility for all people and goods in the region, ensure travel safety and reliability, preserve and ensure a sustainable regional transportation system, protect the environment, encourage energy efficiency and facilitate the use of alternative modes of transportation, and the Project would not conflict with the RTP/SCS strategies to focus growth near destination and mobility options. Therefore, the Project would result in a less than significant impact as it would not conflict with the RTP/SCS.

The Project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The Project would be consistent with the City's General Plan Circulation Element, and SCAG's SCS/RTP. Therefore, impacts would be less than significant.

Mitigation Measures:

None required.

Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact G-2: The Project would conflict with CEQA Guidelines section 15064.3, subdivision (b) which addresses vehicles miles traveled. The City's adopted local threshold of significance is 3% below existing City of Chino Hills VMT/Capita (i.e. VMT/Capita = 17.55). The proposed Project Average VMT/Capita is 21.65, which is 8.09% above the City Average VMT/Capita Threshold, thus the Project will have a unmitigable significant impact. There are no feasible mitigation measures available that could possibly reduce VMT associated with the Project to a level of insignificance. Therefore, the Project will have a significant and unavoidable VMT impact.

As shown in **Table IV.G-3, City of Chino Hills** and **Table IV.G-4, Project (TAZ 53598201)** the proposed Project Average VMT/Capita is 8.09% above the City average VMT/Capita Threshold (97% of Year 2025 City Average), and based on the criteria outlined in this report, the proposed Project will not have a level of 3% below existing City of Chino Hills VMT/Capita (i.e. VMT/Capita = 17.55) and thus will have a Project significant VMT impact.

Table IV.G-3
City of Chino Hills

VMT per Capita	Year 2025 City Average	Threshold (97% of Year 2025 City Average)
	20.65	20.03%

Source: Linscott Law & Greenspan, Technical Memorandum, Supplemental VMT Analysis for the Proposed Paradise Ranch Residential Project, October 7, 2022.A copy of this report is provided in Appendix H.3 of this Draft Focused EIR.

Table IV.G-4
Project (TAZ 53598201)

VMT per Capita	Year 2025	Compared to Threshold (97% of Year 2025 City Average)
	21.65	8.09% Higher

Source: Linscott Law & Greenspan, Technical Memorandum, Supplemental Vehicles Miles Traveled (VMT) Analysis for the Proposed Paradise Ranch Residential Project, October 7, 2022.A copy of this report is provided in Appendix H.3 of this Draft Focused EIR.

Projects that exceed the VMT impact threshold and result in a significant traffic impact under CEQA must propose measures to reduce Project VMT or mitigate a CEQA transportation impact. VMT reduction strategies can be quantified using currently available best practices such as the California Air Pollution Control Officers Association (CAPCOA) calculation methodologies and Air Resource Board research findings.

The maximum allowable VMT reduction is 10.00% since a residential project can only utilize strategies in four categories: Land Use/Location, Neighborhood/Site Enhancement, Parking Police/Price, and Transit System Improvements. Hence, based on the above and with a potential VMT impact of 8.09% above the City Average, the Project's significant VMT impact would appear to be mitigatable.

Appendix H.3, Table 1 presents the CAPCAO TDM strategies for land use projects for informational purposes. In addition, Appendix H.3 provides potential mitigation measures to offset the potential impacts. However, based on the location of the Project, limited Carbon Canyon Road access, and lack of pedestrian access and circulation, the implementation of the above-mentioned mitigation measures or a combination of these mitigation measures would not be applicable, and further, would not be sufficient enough to mitigate the Project's VMT impact if it were applied.[5]

Thus, based on the above and with the Project Average VMT/Capita of 21.65, which is 8.09% above the City Average VMT/Capita Threshold, the Project will have a unmitigable significant impact.

In conclusion, consistent with the OPR Technical Advisory and based on the VMT methodology, criteria, guidelines, thresholds and results outlined above, the proposed Project will have a unmitigable significant Project VMT impact.

Mitigation Measures:

None required.

[5] *A further discussion of the mitigation measures and why they are not feasible can be found in Appendix H.3. A Supplemental Vehicles Miles Traveled Analysis for the Proposed Paradise Ranch Residential Project-Chino Hills, California prepared by Linscott, Law & Greenspan, Engineers Inc., Pages 3-4, October 7, 2022.*

Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impact G-3: The Project would not substantially increase hazards due to a design feature. No impacts would occur.

As discussed in **Section VII, Effects Found Not to be Significant** and in the Initial Study (Appendix A of this Draft Focused EIR), no hazardous design features or incompatible land uses would be introduced with the Project that would create significant hazards to the surrounding roadways. The Project proposes a land use that complements the surrounding development and utilizes the existing roadway network. The Project's driveways would conform to the City's design standards and would provide adequate sight distance, sidewalks, and pedestrian movement controls meeting the City's requirements to protect pedestrian safety. Therefore, no impacts would occur, and no mitigation measures are required.

Mitigation Measures:

None required.

Would the project result in inadequate emergency access?

Impact G-4: The Project would not result in inadequate emergency access. Impacts would be less than significant.

The City of Chino Hills updated the Hazard Mitigation Plan in 2020.[6] This plan seeks to reduce the loss of life, personal injury, and property damage that can result from a disaster through long- and short-term strategies. The City's Emergency Preparedness Program enhances the City's ability to respond to and recover from the effects of natural or manmade disasters; administers the Federal and State Disaster Assistance Programs; and serves as the liaison to these, and other agencies in San Bernardino County. Additionally, the City maintains an Emergency Operations Plan that addresses the City's planned response to large-scale emergencies associated with natural disasters and technological incidents, and provides guidance on the response to emergencies, including wildfires. The Project would comply with the goals, objectives, and mitigation measures outlined in the plans and programs designed to reduce risk in the City of Chino Hills.

Impairment of emergency response plans or emergency evacuation plans would occur if the Project would introduce an undue or extraordinary burden on emergency responders as they respond to a wildfire incident. Common examples of such a situation include placement and/or design of a project that could preclude access by emergency responders or the orderly evacuation of a site in the event of a wildfire incident. Undersized roadways, underrated bridges and culverts, steep grades and pinch points, remoteness, and inadequate points of ingress and egress to and from a site are examples of the difficulties that firefighters can experience when responding to a wildfire.

During construction of the Project, a temporary increase in traffic on roadways surrounding the Project Site may occur due to increased truck loads or the transport of construction equipment to and from the Project Site during the construction period. However, all construction activities including staging would

[6] *City of Chino Hills, Hazard Mitigation Plan, July 2020.*

occur within the boundaries of the Project Site, ensuring that surrounding streets remain free and clear during construction, which would ensure that adequate emergency access to the Project Site and vicinity in the event of an emergency or evacuation order would be provided during construction of the Project.

Development of the Project includes the construction of three new streets, "A" Street, "B" Street, and "C" Street which provide access to the residential homes. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street. The Project has prepared, and committed to the practices and design features contained within, a Fire Protection Plan (FPP) to ensure that development of the Project does not impair emergency response to the Project Site or vicinity. Pursuant to the requirements of the FPP (see Appendix IS-E), all the roads, gates, and related infrastructure would be built with the most current fire protection standards and maintained by the homeowners association (HOA). All streets would be a minimum of 40 feet in width. Parking would be allowed on both sides as long as 26 feet of fire access is maintained clear of any obstruction. Cul-de-sacs would be designed to the City of Chino Hills Development Code standards. Road surfaces would be limited to concrete and asphalt. Access to all portions of each structure would be within 150 feet of the available fire department access. All publicly accessible roads would be cleared of all combustible vegetation for a minimum of 20-feet on the uphill side or level ground and 30-feet on the downhill side of the roadway prism. Any access gates to be installed would meet Chino Valley Independent Fire District (CVIFD) standards and would be approved by the CVIFD prior to fabrication and installation. A 'Knox' override key switch or similar device would be installed outside the gate in an approved, readily visible, and unobstructed location at or near the gate to provide emergency access. Gates accessing more than four residences or residential lots would also be equipped with approved emergency traffic control-activating strobe light sensor(s), or other devices approved by the Fire Chief, which would activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of a power failure.

Section 16.22.010 of the City of Chino Hills Municipal Code requires access for fire fighting vehicles into areas between fire hazardous areas or "fuel modified" areas and the development perimeter, so that a wildland fire can be contained at the development perimeter and prevented from spreading to structures. Accordingly, between lots 30-31, a 12-foot-wide, 12% -maximum grade, fuel modification access would be provided from the street to the fuel modification at the rear of lots 27-34. At the end of the access, a pipe gate or Fire Department approved gate that is non-combustible would be installed with a Knox pad lock for Fire Department access. All fire access roads would meet the requirements of the CVIFD, and would be capable of supporting loads of 75,000 pounds of gross vehicle weight.

The Project would implement all required design features contained within the FPP, including those pertaining to emergency access detailed above. These design features would be reviewed and approved by CVIFD and the Chino Hills Public Works Department during building plan check, prior to the start of construction. The purpose of these design features is to minimize the cutting-off of the home owners egress due to a wildland fire occurrence and for safe ingress by emergency responders. Accordingly, through compliance with existing regulations, the Project would not result in inadequate emergency access and impacts would be less than significant.

Mitigation Measures:

None required.

4. CUMULATIVE IMPACTS

i) Conflict with a program plan, ordinance or policy addressing the circulation system

For the analysis of consistency with plans, ordinance, and policies addressing the circulation system, the geographic scope of the cumulative transportation analysis is the City of Chino Hills limits. Transportation policies are made at the City level; therefore, the City of Chino Hills is an appropriate geographic scope. Cumulative transportation impacts could occur if other future development projects in conjunction with the Project would conflict with plans, ordinance policies addressing the circulation system. However, as previously analyzed, the Project would be consistent with the City's General Plan and would not conflict with any policies, plans, or programs addressing circulation. Other pending/future projects in the City would similarly be reviewed by the City to ensure consistency with the General Plan. Therefore, cumulative impacts related to consistency with transportation plans and policies would be less than significant.

ii) Conflict with CEQA Guidelines Section 15064.3 Subdivision (b)

With regard to VMT, consistent with the OPR Technical Advisory and based on the VMT methodology, criteria, guidelines, thresholds and results outlined above, the proposed Project will have a unmitigable significant Project VMT impact and an unmitigable significant cumulative impact.

iii) Hazards due to Design Features

With regard to operation, hazards due to design features and emergency access are generally Project and Project Site specific, and associated impacts are generally not additive between projects. Furthermore, like the Project, each of the cumulative projects would be subject to site plan review and would meet City street design and access requirements. Therefore, during operation of the Project in combination with the cumulative project, hazards due to design features and inadequate emergency access would be less than significant.

iv) Emergency Access

During construction, emergency access could be impeded as a result of the construction traffic particularly large haul trucks and other heavy equipment (e.g., cement trucks and cranes), that may disrupt traffic flows, limit turn lane capacities, and generally slow traffic movement. However, as required by the City's Construction Management Ordinance, the Project and other future construction projects would be required to implement a Construction Impact Management Plan (CIMP). These plans, which would address construction traffic routing and control, vehicular and pedestrian safety, pedestrian/bicycle access and parking, street closures, and construction parking in the area, would be reviewed by the City with an understanding of the other projects undergoing construction in the vicinity simultaneously. Thus, implementation of the City-approved CIMP for cumulative projects would ensure the continued provision of emergency access. Therefore, the Project would not contribute to a cumulatively significant impact on emergency access during construction.

Upon Project buildout, the Project would not alter or block existing emergency access routes. Therefore, the Project would not contribute to a cumulatively significant impact on emergency access during operation.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level Impacts related to transportation, hazardous design features and emergency access would be less than significant. Project-level impacts related to VMT would be significant and unavoidable.

Cumulative impacts related to transportation, hazardous design features and emergency access would be less than significant. Cumulative impacts related to VMT would be significant and unavoidable.

IV. ENVIRONMENTAL IMPACT ANALYSIS
H. TRIBAL CULTURAL RESOURCES

1. INTRODUCTION

This Focused EIR section discusses the Project's potential impacts on tribal cultural resources. Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria.

2. ENVIRONMENTAL SETTING

A. Ethnographic Setting

The Project Site is located in the City of Chino Hills, a rural and urbanized community in southern California. The prehistoric cultural chronology for the Chino Hills area divides prehistory into three periods: Milling Stone at 8,000 to 3,000 years before present, Intermediate at 3,000 to 1,400 years before present, and Late at 1,400 to 150 years before present.[1]

All of Chino Hills is within the traditional tribal territory of the Tongva/Gabrielino, which is believed to have inhabited the area beginning in the Milling Stone or Intermediate period, approximately 3,000 years before present. These people are believed to have established the village of Pashiinonga, which was located on arise above Chino Creek. This village would have been a base with smaller satellite villages and seasonal camps in the vicinity.[2]

Beginning in 1771, Mission San Gabriel was given control over all the lands east and south of the mission, including the Chino Hills area. The inhabitants of Pashiinonga and other villages were forcibly relocated to the Mission. The lands were used for ranching activities, mostly cattle grazing, to support the Mission. In the 1820s, the Mexican government gained control of California, and by 1834 the mission lands were being redistributed as private land grants called "ranchos."

For more details relating to Historic Setting, refer to **Section IV.C, Cultural Resources**, of this Draft Focused EIR.

B. Native American Heritage Commission Sacred Lands File

The California Native American Heritage Commission (NAHC) is a Statewide Trustee Agency for the protection and preservation of Native American cultural resources pursuant to PRC Section 21070. The NAHC maintains a confidential Sacred Lands File (SLF) that contains sites of traditional, cultural, or

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[1] *City of Chino Hills General Plan, Conservation Element, February 24, 2015.*

[2] *City of Chino Hills General Plan, Conservation Element, February 24, 2015.*

religious value to the Native American community. The SLF search is a search of recorded Native American sacred sites and burial sites as defined by the NAHC and PRC Sections 5097.94(a) and 5097.96.

On April 20, 2021, a request to the NAHC for a SLF search and a Native American contact list for the Project. The NAHC responded on May 10, 2021, with a Native American contact list and stating that the SLF indicated that there are no sacred lands within the vicinity of the Project area. They provided a list of Native American contacts to outreach to for further details regarding the Project area. Copies of the NAHC response and the list of contacts provided by NAHC are included in Appendix E of this Draft Focused EIR.

C. Native American Outreach

In accordance with Assembly Bill 52 (AB 52), the City submitted request to consult letters to the identified Native American individuals and organizations on the CEQA Tribal Consultation List on June 8, 2021. Recipients were requested to respond within 60 days of receipt of the letter if they wished to engage in government to- government consultation per AB 52. Of the two groups and/or individuals contacted, one responded with comments. On June 8, 2021, the City received a letter from the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh Nation) as part of the AB 52 consultations.

The Gabrielino Band of Mission Indians – Kizh Nation, represented by Andrew Salas, identified that they "have received the Notice of Intent to adopt a Negative Declaration for the Paradise Ranch located 16200 and 16220 Canyon Hills Road City of Chino Hills. The Tribal Government then requested the retention of a Native American Tribal Consultant to monitor all ground disturbance conducted for the Project."

The City concluded consultation on August 6, 2021. Copies of the correspondence related to the consultation are included in Appendix I. To date, no other response letters from the Native American community have been received as part of the AB 52 tribal consultation effort.

D. Regulatory Framework

i) Assembly Bill 52

The Native American Historic Resource Protection Act (Assembly Bill ["AB"] 52) took effect July 1, 2015, and incorporates tribal consultation and analysis of impacts to tribal cultural resources into CEQA. It requires tribal cultural resources to be analyzed like any other CEQA topic and establishes a consultation process for lead agencies and California Native American tribes. Projects that require a Notice of Preparation of an EIR or Notice of Intent to adopt a ND or MND are subject to AB 52. A significant impact on a tribal cultural resource is considered a significant environmental impact, requiring feasible mitigation measures.

Tribal cultural resources are defined as either of the following:

1. Sites, features, places, cultural landscapes (must be geographically defined), sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources as set forth in PRC Section 21074(a)(1).

2. The lead agency, supported by substantial evidence, chooses to treat the resource as a tribal cultural resource as set forth in PRC Section 21074(a)(2)).

The first category requires that the tribal cultural resources qualify as a historical resource according to PRC Section 5024.1. The second category gives the lead agency discretion to qualify that resource granted

that the lead agency supports its determination with substantial evidence and considers the resource's significance to a California Native American tribe. The following is a brief outline of the process:[3]

1. A California Native American tribe must first request in writing to be notified by lead agencies of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe.

2. Within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested project notification.

3. A tribe must respond, in writing, within 30 days of receiving the notification if it wishes to request consultation.

4. The lead agency must initiate consultation within 30 days of receiving the request from the tribe.

5. Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a tribal cultural resource; or a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached.

6. Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on tribal cultural resources and discuss feasible alternatives or mitigation that avoid or lessen the impact.

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Confidentiality does not, however, apply to data or information that: are, or become publicly available; are already in lawful possession of the project applicant before the provision of the information by the California Native American tribe; are independently developed by the project applicant or the project applicant's agents; or are lawfully obtained by the project applicant from a third party that is not the lead agency, a California Native American tribe, or another public agency (PRC Section 21082.3(c)(2)(B).)

3. ENVIRONMENTAL IMPACTS AND MITIGATIONS

A. Thresholds of Significance

Appendix G of the CEQA Guidelines provides screening questions that address tribal cultural resources, which frame the impact assessment methodology used in this analysis. Specifically, Appendix G of the

[3] *PRC Sections 21080.3.1 – 21080.3.3.*

CEQA Guidelines states that a project may have a significant adverse impact on cultural resources if it would do any of the following:

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:

   i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

   ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The City uses these questions as thresholds for determining the significance of impacts in its EIRs. The CEQA Guidelines provide that a Lead Agency may use the questions set forth in the Appendix G to assess the significance of a project's environmental effects. Although the use of Appendix G as a significance threshold is not mandatory, it is routinely sanctioned by the courts.

B. Methodology

The analysis of tribal cultural resources provided in this section is based on review of the Project Site's history of development as well as AB 52 tribal consultation. Tribal consultation pursuant to AB 52 consisted of project notification and request to consult letters that the City submitted to Native American individuals and organizations and follow-up Native American consultations.

C. Project Impacts and Mitigation Measures

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Impact Analysis:

Impact H-1: Based upon the pedestrian survey resulting positive for cultural resources, the potential to encounter buried cultural materials during the grading of the Project area exists. With the implementation of MM TCR-1, impacts to tribal cultural resources would be reduced to a level of less than significant.

Construction activities associated with the Project would involve earthmoving activities associated with excavation and grading for the foundations, and the transport and disposal of demolished building materials, as well as excavated soil. Grading, site preparation and excavation would require the net export of approximately 59,075 cubic yards of soil and approximately 41,410 cubic yards of import of soil. The likely outbound haul routes for the Project would be via Canyon Hills Road to SR142.

On July 8-9 and 12, 2021, Kleinfelder archaeologist, David Sosa, M.A., RPA, completed an intensive pedestrian survey of the Project area.[4] The survey was completed using 10- to 15-meter-spaced transects. Close inspection was given to all exposed soils and cut banks for the presence of archaeological materials. The Project area was photographed using a high-resolution digital camera (see Appendix G, of the Cultural Resources Evaluation Survey Photographs) and field observations were captured in written notes. Locational data were collected with Environmental Systems Research Institute Arc Collector application on Android. The Project area was hilly with steep angles but accessible by foot and 100 percent of the Project area was surveyed. A large white house was in the center of the Project area and seven historic-period buildings are located in the north-northeast of the Project area within APN-1000-051-09. Ground visibility was moderate. Soils ranged from a light tan loam in the south end, to light tan loam to dark gray sandy loam in the north end, to pale tan sandy loam in far northeast end north of Canyon Hills Drive. Vegetation consisted of low to medium grasses, oaks, brush, and eucalyptus trees.

Kleinfelder identified two newly recorded cultural resources (one historical glass scatter; [DGS070821_1] and one historical refuse scatter [DGS070821_2]) and recorded one property with buildings that date between ca. 1920 and ca. 2005 (APN-1000-051-09 [Buildings 1-11]). The resources are summarized below. Refer to Appendix E (specifically refer to Appendix B, Figure 4 for resource location map, Appendix F for the newly recorded sites on DPR 523 forms, and Appendix G for survey photographs of the Cultural Resources Report).

The cultural resource inventory of the 85-acre (APN 1000-051-19 and 1000-051-09) Project area included research and review of relevant, historic maps, records search results from the SCCIC, SLF results from the NAHC, and an intense pedestrian survey of the Project area. The result of these study and inventory efforts concluded with positive results for new resources. Kleinfelder recorded, evaluated, and provided recommendations for seven historic-period buildings located on APN-1000-051-09 and two historic archaeological refuse scatters (DGS070821_1 and DGS070821_2). No resources were collected. The buildings located on APN-1000-059-09 consist of seven historic-period buildings and historic archaeological refuse scatter sites DGS070821_1 and DGS070821_2 was evaluated using CRHR eligibility criteria to determine whether they constitute eligible historical resources under CRHR as required under CEQA. Kleinfelder concluded, the seven historic-period buildings and historical refuse scatter sites DGS070821_1 and DGS070821_2 are recommended not eligible under any criteria for listing on the CRHR. Based the surficial review of archaeological materials present this site is recommended not eligible for

[4] *Cultural Resources Identification and Evaluation Report for the Chino Hills Project, Chino Hills, San Bernardino County, California, prepared by Kleinfelder, November 24, 2021.*

CRHR under any criteria. Should additional information be identified during subsurface excavation for the Project, such findings would require additional review and consideration for CRHR eligibility.

The Cultural Resources Evaluation resulted in the identification of seven historic-period buildings located on APN-1000-051-09 and two historical refuse scatters DGS070821_1 and DGS070821_2. The newly identified historic-period buildings and both refuse scatters (DGS070821_1 and DGS070821_2) lack significant subsurface deposits and were determined to retain no further research potential beyond recording their locations and attributes, which has been completed. However, based upon the pedestrian survey resulting positive for cultural resources, the potential to encounter buried cultural materials during the grading of the Project area is feasible.

On April 20, 2021, a request was sent to the NAHC for a SLF search and a Native American contact list for the Project. The NAHC responded on May 10, 2021, with a Native American contact list and stating that the SLF indicated that there are no sacred lands within the vicinity of the Project area. They provided a list of Native American contacts to outreach to for further details regarding the Project area. The NAHC Native American contacts list is provided in Appendix D of the Cultural Resources Identification Evaluation Report.

The City commenced tribal notification for this Project in accordance with AB 52 on June 8, 2021, via a mailing to tribal representatives of the following tribes that had requested notification of projects within the area including the Project Site:

- Gabrieleño Band of Mission Indians – Kizh Nation
- Soboba Band of Luiseno Indians

The 60-day notification response window closed on August 6, 2021. On June 8, 2021, the City received a letter via email from the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh Nation) as part of the AB 52 consultations.

The Gabrielino Band of Mission Indians – Kizh Nation, represented by Andrew Salas, identified that they "have received the Notice of Intent to adopt a Negative Declaration for the Paradise Ranch located 16200 and 16220 Canyon Hills Road City of Chino Hills. The Tribal Government then requested the retention of a Native American Tribal Consultant to monitor all ground disturbance conducted for the Project." The City concluded consultation on August 6, 2021.

Based upon the request of Kizh Nation, Mitigation Measure **MM TCR-1** is provided that requires retention of a qualified Native American Monitor to monitor all grading and excavation activities within the Project Site. With the implementation of Mitigation Measure **MM TCR-1**, impacts to tribal cultural resources would be reduced to a level of less than significant.

Mitigation Measures:

MM TCR-1: Prior to issuance of a grading permit, the Applicant shall retain a qualified Native American Monitor (Monitor) from the Gabrieleno Band of Mission Indians-Kizh Nation to monitor all grading and excavation activities within the Project Site. The Monitor shall photo-document the grading and excavation activities and maintain a daily monitoring log that contains descriptions of the daily construction activities, locations and mappings of the graded areas, soils, and documentation of any identified tribal cultural resources. On-site monitoring shall end when the Project Site grading and excavation activities are completed, or when the Tribal Representatives and Monitor have indicated that the Project Site has a low potential for archaeological resources. If tribal cultural resources

are encountered during monitoring, all ground-disturbing activities within 50 feet of the find shall cease and the Monitor shall evaluate the significance of the find, and if significant, recommend a formal treatment plan and appropriate measure(s) to mitigate impacts. Such measure(s) may include avoidance, preservation in place, archaeological data recovery and associated laboratory documentation, or other appropriate measures. The City shall determine the appropriate and feasible measure(s) that shall be necessary to mitigate impacts, in consideration of the measure(s) recommended by the Monitor. The Applicant shall implement all measure(s) that the City determined necessary, appropriate and feasible. Within 60 days after grading and excavation activities are completed, the Monitor shall prepare and submit a final report to the City and the California Native American Heritage Commission. The report shall include documentation of any recovered tribal cultural resources, the significance of the resources, and the treatment of the recovered resources. In addition, the Monitor shall submit the monitoring log and photo documentation, accompanied by a photo key, to the City.

4. CUMULATIVE IMPACTS

The study area for cumulative impacts to tribal cultural resources is the extent of the geographic area with which the identified tribes are traditionally and culturally affiliated. Projects within this area requiring the preparation of an IS/ND, IS/MND, or EIR are subject to the requirements of AB 52, which includes notifying tribes to solicit consultation and to analyze potential impact of tribal cultural resources. Compliance with existing regulatory measures safeguarding tribal cultural resources would ensure potential impacts from inadvertent discovery would be reduced to a less-than-significant level. Any project sites that contain tribal cultural resources would be required to comply with regulations and/or safeguard mitigation measures to reduce potential impacts to the greatest extent feasible. With the implementation of Mitigation Measure **MM TCR-1**, impacts to tribal cultural resources would be reduced to a level of less than significant and the Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure **MM TCR-1**, Project level impacts related to tribal cultural resources would be less than significant.

With the implementation of Mitigation Measure **MM TCR-1**, cumulative impacts related to tribal cultural resources would be less than significant.

V. OTHER CEQA CONSIDERATIONS

1. SIGNIFICANT UNVAVOIDABLE ENVIRONMENTAL EFFECTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided. Specifically, Section 15126.2(b) states:

> *Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.*

Based on the analysis contained in **Chapter IV, Environmental Impact Analysis**, of this Focused EIR, construction and operation of the Project would result in transportation significant unavoidable environmental impacts. These impacts are summarized below:

A. Transportation

i) Project-Level Impacts

As discussed in **Section IV.G, Transportation**, of this Draft Focused EIR, the proposed Project Average VMT/Capita is 8.09 percent above the City average VMT/Capita Threshold (95percent of Year 2025 City Average), and based on the criteria outlined in this report, the proposed Project will not have a level of 3 percent below existing City of Chino Hills VMT/Capita (i.e. VMT/Capita = 17.55) and thus will have a Project significant VMT impact.

Projects that exceed the VMT impact threshold and result in a significant traffic impact under CEQA must propose measures to reduce Project VMT or mitigate a CEQA transportation impact. VMT reduction strategies can be quantified using currently available best practices such as the California Air Pollution Control Officers Association (CAPCOA) calculation methodologies and Air Resource Board research findings.

The maximum allowable VMT reduction is 10.00% since a residential project can only utilize strategies in four categories: Land Use/Location, Neighborhood/Site Enhancement, Parking Police/Price, and Transit System Improvements. Hence, based on the above and with a potential VMT impact of 8.09% above the City Average, the Project's significant VMT impact would appear to be mitigatable. Appendix H.3, Table 1 presents the CAPCAO TDM strategies for land use projects for informational purposes. In addition, Appendix H.3 provides potential mitigation measures to offset the potential impacts. However, based on the location of the Project, limited Carbon Canyon Road access, and lack of pedestrian access and circulation, the implementation of the above-mentioned mitigation measures or a combination of these mitigation measures would not be applicable, and further, would not be sufficient enough to mitigate the Project's VMT impact if it were applied.

Thus, based on the above and with the Project Average VMT/Capita of 21.65, which is 8.09% above the City Average VMT/Capita Threshold, the Project will have a unmitigable significant impact.

In conclusion, consistent with the OPR Technical Advisory and based on the VMT methodology, criteria, guidelines, thresholds and results outlined above, the proposed Project will have a unmitigable significant Project VMT impact.

ii) Cumulative Impacts

As discussed in **Section IV.G, Transportation**, of this Draft Focused EIR, the proposed Project Average VMT/Capita is 8.09 percent above the City average VMT/Capita Threshold (95percent of Year 2025 City Average), and based on the criteria outlined in this report, the proposed Project will not have a level of 3 percent below existing City of Chino Hills VMT/Capita (i.e. VMT/Capita = 17.55) and thus will have a Project significant VMT impact.

Projects that exceed the VMT impact threshold and result in a significant traffic impact under CEQA must propose measures to reduce Project VMT or mitigate a CEQA transportation impact. VMT reduction strategies can be quantified using currently available best practices such as the California Air Pollution Control Officers Association (CAPCOA) calculation methodologies and Air Resource Board research findings.

The maximum allowable VMT reduction is 10.00% since a residential project can only utilize strategies in four categories: Land Use/Location, Neighborhood/Site Enhancement, Parking Police/Price, and Transit System Improvements. Hence, based on the above and with a potential VMT impact of 8.09% above the City Average, the Project's significant VMT impact would appear to be mitigatable. Appendix H.3, Table 1 presents the CAPCAO TDM strategies for land use projects for informational purposes. In addition, Appendix H.3 provides potential mitigation measures to offset the potential impacts. However, based on the location of the Project, limited Carbon Canyon Road access, and lack of pedestrian access and circulation, the implementation of the above-mentioned mitigation measures or a combination of these mitigation measures would not be applicable, and further, would not be sufficient enough to mitigate the Project's VMT impact if it were applied.

Thus, based on the above and with the Project Average VMT/Capita of 21.65, which is 8.09% above the City Average VMT/Capita Threshold, the Project will have a unmitigable significant impact.

With regard to VMT, consistent with the OPR Technical Advisory and based on the VMT methodology, criteria, guidelines, thresholds and results outlined above, the proposed Project will have a unmitigable significant and unavoidable Project-level and cumulative impact.

2. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines states that the "uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely." Section 15126.2(c) further states that "irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

The types and level of development associated with the Project would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during construction of the Project and would continue throughout its operational lifetime. The development of the Project would require a commitment of resources that would include (1) building materials, (2) fuel and operational materials/resources and (3) the transportation of goods and people to and from the Project Site.

Construction of the Project would require consumption of resources that are not replenishable or that may renew slowly as to be considered non-renewable. These resources would include certain types of lumber and other forest products, aggregate materials used in concrete and asphalt (e.g., sand, gravel, and stone), metals (e.g., steel, copper, and lead), petrochemical construction materials (e.g., plastics), and water. Fossil fuels, such as gasoline and oil, would also be consumed in the use of construction vehicles and equipment. The consumption of these resources would be spread out through the construction period. Consumption of these resources would occur with any development in the region and are not unique to the proposed Project.

Furthermore, Sustainability has been an integral part of the Project's architectural and landscape design concept to ensure the Project implements the City's sustainable goals and objects. Specific focus was given to conserving natural resources in line with the City's conservation priorities in reducing water usage.

The Project would, at a minimum, comply with the sustainability requirements included in state and City regulations and codes. All new buildings on the site would conform to the City's Green Building Code. Key sustainability features would include:

- Water conserving plants, and plants native to hot, dry summers, utilized in 95 percent of the total plant area,
- Irrigation zones separated by plant material,
- Use of hydro zones with plants grouped based on the amount of water needed to sustain them,
- Soil amendments utilized to improve water holding capacity of the soil,
- Automatic irrigation system adjusted seasonably add with watering hours between 9:00 p.m. and 9:00 a.m.,
- Irrigation system design to water different areas of the landscape based on watering need; and
- Recommendations given for an annual irrigation schedule.

The commitment of resources required for the type and level of proposed development would limit the availability of these resources for future generations for other uses during the operation of the proposed Project. However, the Project's use of non-renewable resources would be on a relatively small scale and consistent with regional and local growth forecasts for the area, as well as state and local goals for reductions in the consumption of such resources. In addition, the Project is consistent with the General Plan and therefore anticipated by public service and utility service agencies as part of City buildout.

The Project is proposing to develop under the City's Clustering Ordinance No. 298, and the City of Chino Hills Municipal Code (CHMC) Section 16.10.030. Per Ordinance No. 298, a cluster development is a means of preserving open space while permitting residential development by clustering homes on only a portion of the development parcel, thereby preserving the remainder of the parcel in open space and reducing the amount of grading required. The clustering of residential homes into a small area is made possible by reducing the individual lot sizes and corresponding development standards. This Ordinance is intended to allow the City to establish development standards, regulations, and review procedures for clustering single-family residential development in the Agriculture -Ranch (R -A) and Rural Residential (R -R) zoning districts.

The R-R Clustering Development Standards are provided in Project **Table II-2, R-R Residential Zone District Clustering Development Standards**, **Section II, Project Description**. As shown, in **Table II-2**, Zoning District R-R Clustering includes but is not limited to the following: a maximum building height of 35 feet, maximum Project Site size of 10 acres, maximum lot coverage of 40 percent, minimum lot size of 7,200 sq.ft., and minimum setbacks of 20 feet for the primary structure and the garage. Therefore, the use of the clustering ordinance reduces density and disruption of land and resources.

In addition, the Project Site contains no energy resources that would be precluded from future use through Project implementation.

3. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the ways in which a project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 12126.2(d) of the CEQA Guidelines states:

> *Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A. Direct Growth (Housing and Economic Growth)

The Project would construct 50 new residences and associated improvements, such as roads and stormwater drainages, on approximately 85.2 acres. Lots 1 through 50 will range from a lot size of 7,200 square feet to 12,412 square feet. Lot 51 will maintain the existing residential structure on-site and Lot 52 will remain vacant native land. Using the average household size in 2019 of 3.37, the Project would generate approximately 169 residents.[1] This minimal increase is anticipated in the City's General Plan and Housing Element projections, and the Project would not induce substantial population growth. Further, Project infrastructure would only serve the proposed lots and would therefore not induce growth in an indirect manner. Therefore, the Project would not induce substantial population growth in an area either directly or indirectly, impacts would be less than significant, and no mitigation measures would be required. Accordingly, the direct growth impacts of the Project would be less than significant.

Mitigation Measures:

None required.

[1] *City of Chino Hills Demographics. https://www.chinohills.org/94/Demographics, State Department of Finance - January 2019, accessed June 2021.*

Level of Significance After Mitigation:

Less than significant.

B. Indirect Growth (Utility and Infrastructure Growth)

The Project would construct 50 new residences and associated improvements, such as roads and stormwater drainages, on approximately 85.2 acres. Lots 1 through 50 will range from a lot size of 7,200 square feet to 12,412 square feet. Lot 51 will maintain the existing residential structure on-site and Lot 52 will remain vacant native land.

i) Water

Based on the City's population and water consumption for 2020, the City has a water demand value of 157 gallons per capita per day (GPCD).[2] The Project would generate an additional 169 residents within the City. This increase in population would result in a corresponding increase in water consumption within the City by 26,533 gallons per day (GPD), or 29.72 AF/yr. Through 2045, total water supplies available to the City from all sources are projected to remain 33,684 AF/yr and the City is projected to have between 15,915 AF/yr and 16,564 AF/yr of surplus supply available during normal years; between 15,959 AF/yr and 20,007 AF/yr of surplus supply available during single dry years; and between 15,975 AF/yr and 16,624 AF/yr of surplus supply available during multiple dry years.[3] Accordingly, the Project's estimated increase in water consumption of 29.72 AF/yr would represent between 0.19 and 0.18 percent of the surplus supply available during normal years; between 0.19 and 0.15 percent of the surplus supply available during dry years; and between 0.19 and 0.18 percent of the surplus supply available during multiple dry years.

According to the City's 2020 Urban Water Management Plan (UWMP), Chino Hills' water supply sources are considered to be highly reliable over the next 25 years, therefore, the Project's nominal increase in water demand would not result in the need to identify additional sources of water supply. In addition, even with the City-owned groundwater supply offline and during a five-year consecutive repetition of the driest year on record, the drought risk assessment (DRA) conducted as part of the 2020 UWMP determined that the City would have between 12,213 AF/yr and 13,360 AF/yr of surplus supply available. The Project's water demand would represent 0.24 and 0.22 percent of the surplus supply available under drought risk conditions. Furthermore, given that the Project is consistent with the Project Site's underlying General Plan land use designation and the General Plan's Land Use Element/Map, the Project's water demand has already been accounted for in the General Plan EIR.

As part of normal development, the Project would install on-site water conveyance infrastructure and connections to the existing water supply main beneath Canyon Hills Road. New infrastructure and connections would be installed under permit and through coordination with the City's Public Works Department to ensure proper sizing and siting and to prevent service disruption to existing customers. With regard to Citywide and regional infrastructure, the City and Inland Empire Utilities Agency (IEUA) will continue to update and implement their water system master plans to identify deficiencies and needs for system expansion, and to design and construct improvements in a timely and cost-effective manner. The

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[2] *City of Chino Hills, Urban Water Management Plan 2020, June 2021, page 5-2.*

[3] *City of Chino Hills, Urban Water Management Plan 2020, June 2021, Table 7-5: Normal Year Supply and Demand Comparison, Table 7-6: Single Dry Year Supply and Demand Comparison, Table 7-7: Multiple Dry Years Supply and Demand, pages 7-9 to 7-10.*

regional water supply entities that provide most of the City's water resources also conduct their own master planning programs to identify locations, timing, and scope of water facility upgrades that are needed to increase the amounts of water delivered to the City. At the time that specific water system improvements are being designed, the City and IEUA will evaluate the environmental impacts associated with the particular improvements being proposed, consistent with CEQA, and will identify specific project mitigation measures to reduce impacts to acceptable levels.

Based on the above, the Project would not require or result in the relocation or construction of new or expanded water supply facilities and impacts associated with the construction of new and expanded water conveyance infrastructure would be less than significant.

ii) Wastewater

Based on the City's wastewater generation rate of 50 percent of its water demand,[4] assuming the Project's projected water consumption of 26,533 GPD as determined in the water analysis above, the Project would generate approximately 13,267 GPD of wastewater. Carbon Canyon Water Recycling Facility (CCWRF) has a design treatment capacity of 11.4 million gallons per day (MGD) but receives an average influent flow of approximately 7 MGD, resulting in a remaining daily capacity of 4.4 MGD. RP-5 has a capacity of 16.3 MGD but receives an average influent flow of approximately 9 MGD, resulting in a remaining daily capacity of 7.3 MGD. Accordingly, the additional wastewater flow within the City as a result of the Project would represent 0.6 percent of the remaining daily capacity at CCWRF and 0.4 percent of the remaining daily capacity at RP-5. In addition, RP-5 is undergoing short-term expansion to 22.5 MGD and has a long-term planned capacity of 30 MGD for average flows and 60 MGD for peak flows. The Project's projected wastewater generation would account for 0.2 percent of the short-term remaining capacity and 0.1 percent and 0.05 percent of the long-term remaining capacity for average flows and peak flows, respectively, at RP-5.

The nominal increase in wastewater generation from the Project would not result in a need for new or expanded wastewater treatment facilities. Furthermore, the Project would generate the same types of wastewater that are currently generated throughout the City of Chino Hills. The Project does not include new uses or activities that would require unique wastewater treatment processes. Given that the Project is consistent with the Project Site's underlying General Plan land use designation and the General Plan's Land Use Element/Map, wastewater that would be generated on-site has already been accounted for in the projections published in the General Plan EIR.

As part of the normal development process, the Project would be required to install on-site wastewater collection and conveyance infrastructure and connections to the existing sewer main beneath Summer Canyon Road. Preliminary information from the City's Public Works Department indicates that, at a minimum, the Project would be required to install variable frequency drives and upgrade the sizing of pumps at the lift station at the bottom of Canyon Hills Road.[5] The design and installation of on-site wastewater infrastructure as well as any off-site connections and upgrades would be conducted under permit and through coordination with the City's Public Works Department to ensure proper sizing and siting of facilities as well as identify any improvements required in order for existing infrastructure in the vicinity of the Project Site to handle the Project's projected wastewater flows. Increases in wastewater

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[4] *City of Chino Hills, Urban Water Management Plan 2020, June 2021, page 7-7.*

[5] *Email communication from Mark Wiley, Water and Sewer Manager, Public Works Department, Chino Hills, June 9, 2021.*

flows from the City of Chino Hills into the IEUA system would occur gradually and incrementally over the next 20 to 25 years as additional growth occurs in accordance with the updated General Plan's Land Use Element/Map. Flows from the City of Chino Hills, along with flows from other areas served by IEUA, would eventually require upgrades and expansions of IEUA's wastewater conveyance and treatment facilities. However, each new development project in the City, and in other jurisdictions within IEUA's service area, is required to pay a sewer system connection fee that helps fund maintenance and expansion of IEUA's conveyance and treatment facilities. In addition, IEUA's master planning program will continue to monitor inflows and treatment levels, monitor continuing growth throughout its service area, and develop plans for construction of treatment plant and interceptor sewer expansions in a timely and cost-effective manner. IEUA examines environmental impacts associated with facilities upgrades through the CEQA process, and through that process it can identify the specific range and level of impacts associated with the particular wastewater facilities that are being designed at the time.

Based on the above, the Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities and impacts associated with the construction of new wastewater collection facilities would be less than significant.

iii) Stormwater Drainage

The Project Site is currently developed with two existing residences, a barn, and a stable and fenced pasture on approximately 85.2 acres of land. The rest of the land is currently vacant covered with mostly bare soil, grass, bushes, trees, and other native vegetation.

The site topography varies dramatically throughout the property. The site contains a ridgeline along the south portion of the Project Site. There is an estimate 300 feet of elevation differential across the site. Most of the site's existing flow drains into an existing culvert that goes underneath Canyon Hills Road. South of the ridgeline drains south to Summer Canyon Road.

The Project Site will be developed into 50 individual lots for single family homes. As part of the Project, an engineered storm drain system would be installed on the Project Site. The Project is proposing to retain water flow within three detention basins that will be located along the westerly limits of the Project. Outflow from the detention basins drain into the existing culvert.[6]

Consistent with Section 16.54.060, Runoff Control, of the Chino Hills Municipal Code, the new storm drain system would be designed and maintained to control runoff from a 10-year storm event. This would be accomplished through various means, which may include the use of on-site infiltration basins, vegetated swales, and/or dispersing runoff over non-erodible vegetated surfaces to the nearest drainage course so that the runoff rate does not exceed the pre-development levels.

Based on the above, impacts associated with the construction of new stormwater drainage facilities would be less than significant.

iv) Electric Power

During operation of the Project, electricity would be consumed for multiple purposes, including, but not limited to, HVAC, refrigeration, water heating, lighting, and the use of electronics, equipment, and

[6] *Preliminary Hydraulic & Hydrology Study, Paradise Ranch Residential Development Tract Map # 20286, Chino Hills, CA. Prepared by Blue Engineering & Consulting, Inc. May 2021.*

appliances. According to the CalEEMod outputs prepared for the Air Quality and Greenhouse Gas Study (see Appendix IS-A), the Project would have an electrical demand of 398,233 kilowatt-hours per year (kWh/yr). Electricity would be provided to the Project Site by Southern California Edison (SCE), which projects that the total electricity it will deliver to end users in 2025 (the Project's operational year) will be 97,168 gigawatt-hours (GWh).[7] As such, the Project's electrical demand would represent 0.0004 percent of SCE's available supplies. Therefore, the Project's annual electricity consumption would represent an insignificant portion of SCE's projected supplies. In addition, the Project's electricity consumption would be included in the projected growth associated with the City's overall demand, which SCE would review as part of regulatory requirements in order to ensure that the estimated power requirement would be part of the total load growth forecast for their service area and accounted for in the planned growth of the power system. Based on these factors, it is anticipated that SCE's existing and planned electricity capacity and electricity supplies would be sufficient to serve the Project's electricity demand.

As part of the normal development process, the Project would be required to install on-site electricity supply lines and transformers and implement any necessary off-site connections and upgrades required by SCE to ensure that SCE would be able to adequately serve the Project. The Project Applicant would be required to coordinate electrical infrastructure connections with SCE and comply with site-specific requirements set forth, which would ensure that service disruptions and potential impacts associated with grading, construction, and development within SCE easements are minimized. As such, construction of the Project is not anticipated to adversely affect the existing electrical infrastructure serving the surrounding uses or utility system capacity.

Based on the above, the Project would not require or result in the need for relocation or construction of new or expanded electrical supplies and impacts associated with construction of electricity distribution facilities would be less than significant.

v) Natural Gas

During operation of the Project, natural gas would be consumed for multiple purposes, including, but not limited to, HVAC, refrigeration, water heating, lighting, and the use of electronics, equipment, and appliances. According to the CalEEMod outputs prepared for the Air Quality and Greenhouse Gas Study (see Appendix IS-A), the Project would have a natural gas demand of 1,451,123 cubic-feet (cf) per year, or 3,976 cf per day.[8] Natural gas would be provided to the Project Site by Southern California Gas Company (SoCalGas), which projects that natural gas consumption within their planning area will be approximately 2,349 million cf per day in 2025[9] As such, the Project's natural gas demand would represent 0.0002 percent of the natural gas consumption within SoCalGas' area. Therefore, The Project's annual natural gas consumption would represent an insignificant portion of SoCalGas's projected supplies.

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[7] *Future electricity supplies are defined in terms of deliveries to end users. California Energy Commission, California Energy Demand, 2019-2030 Managed Forecast – Mid Demand / High AAEE Case, Electricity Deliveries to End User by Agency (GWh), Form 1.1c, Corrected February 2020.*

[8] *Note that the CalEEMod outputs present the Project's operational natural gas demand as 1,414,350 kilo-British thermal units (kBTU) per year. 1 kBTU = 1.026 cubic feet; 1,414,350 kBTU per year x 1.026 = 1,451,123 cf per year; 1,451,123 cf per year / 365 days per year = 3,976 cf per day.*

[9] *California Gas and Electric Utilities, 2020 California Gas Report, page 144.*

Based on the Project's small fraction of total natural gas consumption for the region, ongoing SoCalGas long-range planning efforts to provide natural gas for this service region, and sufficient existing infrastructure, SoCalGas' existing and planned natural gas supplies and infrastructure would be sufficient to meet the Project's demand for natural gas.

As part of the normal development process, the Project would be required to install on-site natural gas supply lines and implement any necessary off-site connections and upgrades required by SoCalGas to ensure that SoCalGas would be able to adequately serve the Project. Construction impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface and connection to existing local supply lines. Prior to ground disturbance, contractors would notify and coordinate with SoCalGas to identify the locations and depth of all existing gas lines and avoid disruption of gas service to other properties

Based on the above, the Project would not require or result in the need for relocation or construction of new or expanded natural gas supplies and impacts associated with construction of natural gas facilities would be less than significant.

vi) Telecommunications

Telecommunication services are provided to users through contracts on an as-requested basis. As part of the Project, telecommunications facilities would be installed on the Project Site. The determination of the type, sizing, and siting of telecommunications facilities that would provide service for the Project would be determined by the Applicant at the time service contracts are prepared. Electrical plans reflecting the estimated loads and recommended location for the Telecommunications/Data facilities would be submitted by the Applicant to the respective telephone and cable TV companies, each company would determine the most cost-effective communications/data cable system to provide their service to the Site. The telephone company and the cable TV company would work with the Owner's Project team to design conduit and cable systems to bring the necessary Communications/Data facilities to the Project in a timely manner.

Before construction begins, the Project Applicant would coordinate with applicable regulatory agencies and telecommunication providers to implement orderly connection to existing telecommunication facilities. This would involve establishing new connections to the proposed new structures. Such improvements would be localized in nature and would involve trenching to place facilities such as fiber optic cables and phone lines underground.

Based on the above, impacts associated with construction of telecommunications facilities would be less than significant.

The Project would result in less than significant impacts to water, wastewater treatment, stormwater drainage, electric power, natural gas, and/or telecommunication facilities and no mitigation is required.

The Project would increase the density at the Project Site, which would necessitate the extension of roads and other infrastructure. Roadways and other infrastructure (e.g., water facilities, electricity transmission lines, natural gas lines, etc.) associated with the Project would not induce growth because the Project Site is located near a developed residential area of the City which would connection to all local utility infrastructures, including water, wastewater, electricity, and natural gas. Therefore, utility infrastructure would not be expanding into a new area as a result of the Project. The Project would not cause growth (i.e., new housing or employment generators) that exceeds projected/planned levels or accelerate development in an undeveloped area that would result in an adverse physical change in the environment

or introduce unplanned infrastructure. Therefore, the Project would not spur additional growth other than that already anticipated. Accordingly, the indirect growth impacts of the Project would be less than significant.

Mitigation Measures:

None required.

Level of Significance After Mitigation:

Less than significant.

4. POTENTIAL SECONDARY EFFECTS OF MITIGATION MEASURES

Section 15126.4(a)(1)(D) of the State CEQA Guidelines requires mitigation measures to be discussed in less detail than the significant effects of the proposed project if the mitigation measure(s) would cause one or more significant effects in addition to those that would be caused by the project as proposed. The analysis of project impacts in Chapter IV, Environmental Impact Analysis, of this Draft Focused EIR, resulted in recommended mitigation measures for several environmental topics, which are identified below. The following provides a discussion of the potential secondary effects on those topics that could occur as a result of implementation of the required mitigation measures. For the reasons stated below, it is concluded that the Project's mitigation measures would not result in significant secondary impacts.

A. Biological Resources

Mitigation Measures BIO-1 through BIO-3 establish protections for trees, nesting birds, jurisdictional delineations, and trees. These mitigation measures would ensure that resources are not damaged or harmed consistent with State CEQA Guidelines and regulations that provide for the protection of such resources. As such, these measures represent procedural actions, which would not increase or generate additional environmental impacts, and would be beneficial in protecting biological resources that could potentially be encountered onsite. No construction or operation of additional uses, structures or other improvements, and no additional construction activities, would be required. Therefore, the implementation of these mitigation measures would not result in significant secondary impacts on the environment.

B. Cultural Resources

Mitigation Measures MM CUL-1 through MM CUL-3 establishes the protocol in the event that archeological resources are discovered during construction, including protection, evaluation, and treatment procedures. As such, this measure represents procedural actions, which would not increase or generate additional environmental impacts, and would be beneficial in protecting archeological resources that could potentially be encountered onsite. No construction or operation of additional uses, structures or other improvements, and no additional construction activities, would be required. Accordingly, implementation of MM CUL-1 through MM CUL-3 would not result in adverse secondary impacts.

C. Geology and Soils

Mitigation Measure MM GEO-1 establishes protections for paleontological resources through monitoring as well as the treatment, reporting and salvaging of resources should they be encountered. These mitigation measures would ensure that paleontological resources are not damaged or harmed consistent

with State CEQA Guidelines and regulations that provide for the protection of such resources. As such, these measures represent procedural actions, which would not increase or generate additional environmental impacts, and would be beneficial in protecting paleontological resources that could potentially be encountered onsite. No construction or operation of additional uses, structures or other improvements, and no additional construction activities, would be required. Therefore, the implementation of these mitigation measures would not result in significant secondary impacts on the environment.

D. Tribal Cultural Resources

Mitigation Measures MM TCR-1 establishes the protocol in the event that tribal cultural resources are discovered during construction, including protection, evaluation, and treatment procedures. As such, this measure represents procedural actions, which would not increase or generate additional environmental impacts, and would be beneficial in protecting tribal cultural resources that could potentially be encountered onsite. No construction or operation of additional uses, structures or other improvements, and no additional construction activities, would be required. Accordingly, implementation of MM TCR-1 would not result in adverse secondary impacts.

VI. ALTERNATIVES TO THE PROPOSED PROJECT

1. INTRODUCTION

The CEQA Guidelines require that EIRs include the identification and evaluation of a reasonable range of alternatives that would avoid or reduce the significant environmental impacts of the proposed Project, while still attaining most of the basic Project objectives. The CEQA Guidelines also set forth the intent and extent of alternatives analysis to be provided in an EIR. Those considerations are discussed below.

A. Alternatives to the Project

Section 15126.6 (a) of the CEQA Guidelines states the following requirement to discuss alternatives to a project:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparable merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."*

Section 115126.6(f)(1) of the State CEQA Guidelines states that among the factors that may be considered when addressing the feasibility of alternatives are: site suitability; economic viability; general plan consistency; other plans or regulatory limitations; jurisdictional boundaries (projects with a regionally significant impact should consider the regional context); and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site.

B. Purpose

Section 15126.6(b) of the State CEQA Guidelines states the following purpose of the alternatives discussion:

> *"Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of project objectives or would be more costly."*

C. Selection of a Reasonable Range of Alternatives

Section 15126.6(c) of the State CEQA Guidelines states the following regarding the selection of alternatives:

"The range of potential alternatives to the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts."

D. Assumptions and Methodology

Whereas mitigation measures are designed to directly address and reduce a project's significant environmental impacts, the alternatives analysis examines the potential reduction in impacts that could result from changes to the project through, for example, modifications in design or modifications in development parameters.

Section 15126.6(d) of the State CEQA Guidelines states that alternatives analysis need not be presented in the same level of detail as the assessment of the proposed Project. Rather, the EIR is required to provide sufficient information to allow meaningful evaluation, analysis, and comparison with the proposed Project. If an alternative would cause one or more significant impacts in addition to those of the proposed Project, analysis of those impacts is to be discussed, but in less detail than for the proposed Project. Following CEQA Guidelines, the alternatives analysis is presented as a comparative analysis to the proposed Project and assumes that all applicable mitigation measures identified for the Project would apply to each alternative. Each alternative is considered against the Project objectives to determine whether the alternative would feasibly attain most of the basic Project objectives, and whether it would avoid or substantially lessen any of the significant impacts of the Project.

Impacts associated with each alternative are compared to Project-related impacts and are classified as greater (or higher), less (or lower), or essentially similar to (or comparable to) the level of impacts associated with the Project. Environmental issues that were analyzed in the Initial Study and for which it was determined that there is no substantial evidence that the Project could cause significant environmental effects are not included in the analysis of alternatives, because the alternatives were selected based on their potential to reduce the significant impacts of the Project.

E. Overview of the Project

The Project would demolish the 1,250 square foot, three-bedroom single-family home, barn, and stables. The applicant is proposing to subdivide the 85.2-acre property into a total of 52 lots. Lots 1 through 50 will include the development of a single-family homes. The Project includes six architectural styles with a total of four different floor plans for each style. The six architectural styles include: Adobe Ranch, Cottage Farmhouse, Monterey Andalusian, Santa Barbara, Agrarian Traditional, and Tuscan Farmhouse. The design of the single-family homes also include three enhanced elevations: Front Enhanced, Side Enhanced, and Rear Enhanced. There are a total of four different floor plans for the single-family homes , each of which are two-story and range between four and five bedrooms. Floor Plan 1 is approximately 3,970 square feet (including garage), Floor Plan 2 is approximately 3,946 square feet (including garage), Floor

Plan 3 is approximately 4,373 square feet (including garage), and Floor Plan 4 is approximately 4,616 square feet (including garage).

Lots 1 through 50 will range from a lot size of 7,200 square feet to 12,412 square feet. Lot 51 will maintain the existing single-family home on-site and Lot A will remain vacant native land.

F. Project Objectives

As discussed in **Section II, Project Description** of this Focused EIR, the basic and fundamental objectives for the proposed Project are:

- Develop an underutilized site with a well-designed and compatible residential Project that is consistent with the character and operational characteristics of surrounding uses in the area.
- To provide a Project that is economically viable and increases the number of housing units to help meet the demand for new housing in the City of Chino Hills.
- To create a Project that complements and enhances the aesthetic character of the area through high quality urban and architectural design and enhances the area around the Project Site.
- To create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City.
- Ensure a financially feasible Project that promotes the City's economic well-being, increases the local tax base.

2. ALTERNATIVES CONSIDERED BUT REJECTED

CEQA Guidelines Section 15126.6(c) also states that an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate an alternative from detailed consideration is the alternative's failure to meet most of the basic Project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts.

The alternatives that were considered but ultimately rejected as infeasible include the following:

A. Alternative Site

State CEQA Guidelines Section 15126.6(f)(2) provides guidance regarding consideration of one or more alternative location(s) for a proposed project, stating that putting the project in another location should be considered if doing so would allow significant effects of the project to be avoided or substantially lessened. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. If no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion.

The Project Applicant is working with the owner to purchase and develop the property. The Applicant does not completely own the Project Site yet however, its location is conducive to the development of a residential project. The Project Applicant cannot reasonably acquire, control, or access an alternate site in a timely fashion that would result in implementation of a project with similar uses and size within the

community. If an alternative site in the community that could accommodate the Project could be found, it would be expected that similar impacts would occur. Additionally, development of the Project at an alternative site could potentially produce other environmental impacts that would otherwise not occur at the current Project Site and result in greater environmental impacts when compared with the Project. Therefore, an alternate site is not considered feasible as the Project Applicant does not own another suitable site that would achieve the underlying purpose and objectives of the Project, and an alternative site would not likely avoid the Project's significant impacts. Thus, this alternative was rejected from further consideration.

3. SUMMARY OF ALTERNATIVES SELECTED

Based on the CEQA Guidelines, several factors were considered in determining the range of alternatives to be analyzed in this Focused EIR and the level of analytical detail that should be provided for each alternative. These factors include: (1) the nature of the possible potentially significant impacts of the proposed Project, (2) the ability of alternatives to avoid or lessen the significant impacts associated with the proposed Project, (3) the ability of the alternatives to meet the objectives of the proposed Project, and (4) the feasibility of the alternatives. The outcome of these discussions identified two alternatives to analyze in the Focused EIR (including the No Project/No Build Alternative).

The following alternatives analysis compares the potential environmental impacts of the two feasible alternatives with the proposed Project for each of the environmental topics analyzed in detail in **Section IV (Environmental Impact Analysis)** of this Draft Focused EIR, although in less detail than in **Section IV** (pursuant to State CEQA Guidelines Section 15126.6(d)).

The two alternatives analyzed include the following:

- Alternative 1: No Project/No Build
- Alternative 2: Reduced Density Development

Table VI-1, Alternatives Development Summary, shows a comparison of the alternative development summary including building square footage, number of stories, and building heights. Detailed alternatives descriptions are included at the beginning of the analysis for each of the alternatives.

Table VI-1
Alternatives Development Summary

Components	Proposed Project	Alternative 1 (No Project/ No Build)	Alternative 2 (Reduced Density Development)
Acres	85.2	85.2	85.2
Proposed Residential Lots	50	2 (existing)	11
Residential square-footage	7,200 sf to 12,412 sf	1,250 sf 1,180 sf (two residential uses)[a]	7,200 sf to 12,412 sf
Number of Existing Lots to Remain	1	2	1
Open Space Lots to Remain (Lot A)	1	N/A	1
Lot A Size Open Space	2,188,152 sf (50 acres)	—	5,758,632 sf (132.2 acres)[b]
Stories			
Residential Uses	2-story	1,250 sf (1-story)[a] 1,180 sf (2-story)[a]	2-story
Height			
Residential Uses	32 feet	—	32 feet
Parking			
	250 parking spaces (5 per lot-[3 per garage and 2 driveway spaces])	—	55 parking spaces (5 per lot-[3 per garage and 2 driveway spaces])

[a] *Square footages are from County of San Bernardino Assessor Parcel Data, Property Information Management System Internet Site, Website: http://www.sbcounty.gov/assessor/pims/PIMSINTERFACE.ASPX January 2022.*

[b] *This is 50 acres plus remaining 82.2 acres not developed with the residential units. Assumes maximum buildout of the 11 lots to 12,412 sf. Calculations: (12,412sf * 11 lots =136,532 sf total). (136,532sf. converted to acres is 3 acres total). Source: EcoTierra Consulting Inc. January 2022.*

4. ALTERNATIVE ANALYSIS

A. Alternative 1: No Project/No Build

i) Description

As previously stated, CEQA Guidelines Section 15126.6(e) requires the analyses of a "no project" alternative. The Alternative 1, No Project/No Build Alternative assumes the proposed Project is not approved, and that the Project Site would remain in its current condition consisting of two parcels with a single-family home on each parcel. No adaptive reuse/refurbishment of the existing uses would occur, and no new residential uses would be constructed. There would be no new road ways and sidewalks, and no publicly accessible open space within the interior of the Project Site. The analysis of the Alternative 1 assumes the continuation of existing conditions, as well as development of the cumulative projects shown in **Section III. Environmental Setting, Table III-1, List of Related Projects**. The potential environmental impacts associated with Alternative 1 are described below and are compared to the environmental impacts associated with the proposed Project. **Table VI-2, Alternative 1 (No Project/No Build)** Components, provides a breakdown of the existing on-site uses under this alternative.

Table VI-2
Alternative 1 (No Project/No Build) Components

Components	Alternative 1 (No Project/ No Build)
Acres	85.2
Proposed Residential Lots	2 (existing)
Residential square-footage	1,250 sf 1,180 sf (two residential uses)[a]
Number of Existing Lots to Remain	2
Open Space Lots to Remain (Lot A)	N/A
Lot A Size Open Space	—
Stories	
Residential Uses	1,250 sf (1-story)[a] 1,180 sf (2-story)[a]
Height	
Residential Uses	—
Parking	
	—
Source: EcoTierra Consulting Inc. January 2022.	

ii) Impact Discussion

No permanent change in the environmental conditions would occur under this Alternative because no new development would occur. As a result, Alternative 1 would avoid the Project's less than significant impacts to Air Quality, Greenhouse Gas Emission, Noise, and Wildfire as no construction or operation would occur on the Project Site. Alternative 1 would also avoid the Project's less than significant impacts with the implementation of mitigation to Biological Resources, Cultural Resources, Geology/Soils, and Tribal Cultural Resources, since under Alternative 1, no ground disturbing activities would occur that would impact these environmental issue areas. Furthermore, Alternative 1 would avoid the Project's significant and unavoidable impact on Transportation (VMT), as Alternative 1 would not construct or operate any development on the Project Site that would increase vehicular traffic to the Project Site or the vicinity.

iii) Relationship of the Alternative to the Project Objectives

Under the Alternative 1, the Project Site would remain in its current condition consisting of two parcels with a single-family home on each parcel. No adaptive reuse/refurbishment of the existing uses would occur, and no new residential uses would be constructed. There would be no new road ways and sidewalks, and no publicly accessible open space within the interior of the Project Site.

Although Alternative 1 would have fewer impacts than the proposed Project, and it would not impact the aesthetic character of the area, by keeping the area as a natural open space, it would not meet the underlying purpose of the Project or satisfy any of the Project Objectives, as listed in **Section II. Project Description** of this Focused EIR. Specifically, Alternative 1 would not:

- Project Objective 1: Develop an underutilized site with a well-designed and compatible residential Project that is consistent with the character and operational characteristics of surrounding uses in the area.
- Project Objective 2: To provide a Project that is economically viable and increases the number of housing units to help meet the demand for new housing in the City of Chino Hills.
- Project Objective 3: To create a Project that complements and enhances the aesthetic character of the area through high quality urban and architectural design and enhances the area around the Project Site.
- Project Objective 4: To create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City.
- Project Objective 5: Ensure a financially feasible Project that promotes the City's economic well-being, increases the local tax base.

Overall, Alternative 1 would not meet the Project's underlying purpose of creating a new residential development that would provide well-designed compatible housing that complements the aesthetic character of the area through high-quality architectural design. Alternative 1 would also not develop a project that is economically viable and increases the number of housing units to help meet the demand for new housing in the City of Chino Hills, or increases the local tax base through the development of housing. Furthermore, Alternative 1 would not facilitate economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City.

iv) Comparison of Project Impacts

A comparison of the impact of each of the alternatives to the Project is summarized in **Table VI-5, Summary of Alternatives' Impacts**. The Project would result less than significant impacts to Air Quality, Greenhouse Gas Emission, Noise, and Wildfire. The proposed Project would result in less than significant impacts with mitigation to Biological Resources, Cultural Resources, Geology/Soil, and Tribal Cultural Resources. The proposed Project would result in a significant and unavoidable impact on Transportation(VMT).

Alternative 1 would eliminate the Project's significant and unavoidable environmental impacts related to Transportation (VMT). Alternative 1 would also eliminate all of the Project's remaining impacts that are less-than-significant and less-than-significant with mitigation as no changes to the existing conditions would occur, and no new development would occur on the Project Site.

As stated above, Alternative 1 would not implement any of the basic and fundamental Project Objectives, as Alternative 1 would remain in its current condition consisting of two parcels with a single-family home on each parcel, and no new residential uses would be constructed that would work towards the implementation of the Project Objectives.

B. Alternative 2: Reduced Density Development

i) Description

Alternative 2, Reduced Density Development, represents a reduced project alternative with a reduction in the number of single-family homes. Similar to the Project, Alternative 2 would demolish the 1,250 square foot, three-bedroom single-family home, barn, and stables. Under Alternative 2 the Project Site would subdivide the 85.2-acre property into a total of 13 lots. Lots 1 through 11 will include the development of a single-family homes, ranging in lot size from 7,200 square feet to 12,412 square feet. Similar to the proposed Project, Alternative 2, Lot 12 will maintain the existing single-family home on-site. Since the 11 lots would only develop a maximum of 3 acres of the Project Site, the remaining 82.2 acres would become part of Lot A. Alternative 2 would maintain Lot A (approximately 132.2 acres)[1] as undisturbed natural open space area in the western portion of the Project Site, including preservation of the on-site Prominent Ridgeline. This alternative was selected to provide residential development for the Project Site, while avoiding sensitive biological resources on the Project Site, and avoiding the unmitigable VMT impacts associated with the Project.

Table VI-3, Alternative 2, Reduce Density Development Components, provides a breakdown of the existing and proposed on-site uses under this alternative. Because this alternative is conceptual for the purposes of the Focused EIR, the exact layout and structural configuration of the proposed development is not determined.

Table VI-3
Alternative 2 (Reduced Density Development) Components

Components	Alternative 2 (Reduced Density Development)
Acres	85.2
Proposed Residential Lots	11
Residential square-footage	7,200 sf to 12,412 sf
Residential acres	3[a]
Number of Existing Lots to Remain	1
Open Space Lots to Remain (Lot A)	1
Lot A Size Open Space	5,785,632 sf (132.20 acres)[b]
Stories	
Residential Uses	2-story
Height	
Residential Uses	32 feet
Parking	
	55 parking spaces (5 per lot-[3 per garage and 2 driveway spaces])

[a] *Assumes maximum buildout of the 11 lots to 12,412 sf. Calculations: (12,412sf * 11 lots =136,532 sf total). (136,532sf. converted to acres is 3 acres total).*

[b] *This is 50 acres plus remaining 82.2 acres not developed with the residential units.*

Source: EcoTierra Consulting Inc. January 2022.

[1] *This is 50 acres plus remaining 82.2 acres not developed with the residential units.*

ii) Impact Discussion

1) Air Quality

Would the alternative conflict with or obstruct implementation of the applicable air quality plan?

Alternative 2 would construct fewer single-family homes than the Project, and would therefore, generate fewer air emissions than the Project. As with the Project, Alternative 2 would not result in construction air quality emissions that exceed the SCAQMD thresholds of significance. Construction of Alternative 2 would be subject to the same regulatory measures (e.g., SCAQMD rules) as those required for the Project. Similar to the Project, Alternative 2 would be consistent with the land use designation on the site. Alternative 2 would not exceed the assumptions utilized in preparing the AQMP and would not have the potential to impair implementation of the AQMP. As Alternative 2 would generate slightly fewer emissions than the Project, impacts with respect to regional plans and AQMP consistency would be incrementally less.

Would the alternative result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction Impacts

Construction of Alternative 2 would generate fewer air emissions than the Project due to the construction of fewer single-family homes than the Project. The duration of construction would be shorter due to less site preparation, on-site grading, foundation excavation, building, and paving for the Project Site. Similar to the Project, the peak daily emissions generated during the construction of Alternative 2 would not exceed any of the regional emission thresholds recommended by the SCAQMD. Construction of Alternative 2 would be subject to the same regulatory measures (e.g., SCAQMD rules) as those required for the Project. Therefore, construction air pollutant emissions overall would be incrementally less than those that would occur with the Project.

Operation Impacts

Alternative 2 would construct fewer single-family homes than the Project. This would translate into a reduction in the number of weekday net vehicle trips and a reduction in energy use. Operational regional air quality emissions associated with area sources (e.g., use of consumer products and maintenance equipment), energy demand (use of natural gas), and mobile sources (motor vehicles) under Alternative 2 would be less than the Project and would not exceed the regional thresholds of significance set by the SCAQMD.

Like the Project, Alternative 2 would not contribute a cumulatively considerable increase in emissions of the pollutants for which the Basin is in nonattainment. Therefore, impacts to regional air quality would be less than the Project's less than significant impact.

Would the alternative expose sensitive receptors to substantial pollutant concentrations?

Localized Emissions

Alternative 2 would generate fewer emissions than the Project due to the duration of construction being shorter due to less site preparation, on-site grading, foundation excavation, building, and paving for the Project Site. Therefore, as with the proposed Project, Alternative 2 would not exceed any of the identified localized thresholds of significance during construction or operation. Therefore, impacts related to localized emissions that could affect sensitive receptors would be incrementally less than the Project's less than significant impact.

Carbon Monoxide (CO) Hotspots

Similar to the Project, Alternative 2 would generate operational vehicle trips that would incrementally increase CO levels at intersections and roadways within one-quarter mile of sensitive receptors. However, since Alternative 2 would result in less vehicle trips than the proposed Project, Alternative 2 would similarly not exceed the CAAQS standards and would not cause localized CO concentrations.

TACs

Potential TAC generators are associated with specific types of facilities such as dry cleaners, gas stations, warehouses, and chrome plating facilities, and are the focus of local control efforts. SCAQMD recommends that operational health risk assessments be conducted for substantial sources of operational DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions. Similar to the Project, Alternative 2 would not result in the use, storage, or processing of carcinogenic or non-carcinogenic TACs. As such, impacts with respect to TACs would be incrementally less than the proposed Project.

Would the alternative result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

As with the Project, construction for Alternative 2 involves the development of single-family homes which are not typically associated with odor complaints.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the Project, which are objectionable to some; however, emissions would disperse rapidly from the Project Site and therefore should not reach an objectionable level at the nearest sensitive receptors. Therefore, construction activities or materials would not create other emissions such as those leading to odors.

Alternative 2 would construct single-family homes; therefore, similar to the Project, long-term operation of these uses under Alternative 2 would not create other emissions including those leading to odors. As such, impacts with respect to other emissions adversely affecting a substantial number of people would be less than significant, similar to the proposed Project.

2) Biological Resources

Would the alternative have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by CDFW or USFWS?

Alternative 2 would include the development of single-family homes. Alternative 2 would also maintain Lot A (approximately 132.2 acres) as undisturbed natural open space area in the western portion of the Project Site, including preservation of the on-site Prominent Ridgeline. Though similar to the Project, Alternative 2 would directly impact vegetation alliances, which in turn, directly affect the flora and fauna of those habitats, wildlife habitat, and indirectly impact wildlife, the extent of the impact may not be as great. Alternative 2 would directly impact four vegetation alliances and developed areas. The loss of the vegetation would result in the loss of habitat that provides nesting, foraging, and denning opportunities for a variety of wildlife. It would also result in the direct loss of amphibians, reptiles, small mammals and other wildlife with low mobility within the impact area.

Alternative 2 would be required to implement the same mitigation measure **MM BIO-1** related to the protection of habitat and **MM BIO-2** nesting birds on the Project Site. Therefore, impacts would be similar to those of the Project and less than significant with mitigation.

*Would the alternative h*ave *a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?*

Alternative 2 would include the development of single-family homes. Alternative 2 would also maintain Lot A (approximately 132.2 acres) as undisturbed natural open space area in the western portion of the Project Site, including preservation of the on-site Prominent Ridgeline.

Similar to the Project, Alternative 2 would include the same habitat and wildlife. One special status plant species, Southern California black walnut, is known to occur on the Project Site. Eleven additional special status plant species have potential to occur on the Project Site: Catalina mariposa lily (*Calochortus catalinae*), Plummer's mariposa lily (*Calochortus plummerae*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), small-flowered morning-glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), many-stemmed dudleya (*Dudleya multicaulis*), Palmer's grapplinghook (*Harpagonella palmeri*), Robinson's peppergrass (*Lepidium virginicum var. robinsonii*), Fish's milkwort *(Polygala cornuta var. fishiae*), Engelmann oak (*Quercus engelmannii*) and Coulter's matilija poppy (*Romneya coulteri*) .

The CNPS rank for the Southern California black walnut is relatively low (CRPR4.2) and impacts normally would be considered adverse but not significant. However, the Southern California black walnut is protected under the City's tree ordinance, so mitigation to offset impacts are discussed below.

None of the other eleven species with potential to occur on the Project Site are listed by USFWS or CDFW as threatened, endangered or a candidate for listing. However, two of the species are ranked high enough to be considered under CEQA. These are the intermediate mariposa lily (CRPR 1B.2) and many-stemmed dudleya (CRPR 1B). These two species were not observed during focused surveys conducted during their blooming period.

The remaining eight special status plant species are CRPR 4: The surveys occurred within the blooming period and/or the plants were perennials and easily detectable for six of the species. These included

Plummer's mariposa lily, paniculate tarplant, Robinson's peppergrass, Fish's milkwort, Coulter's matilija poppy, and Engelmann oak. These plants were not observed.

Catalina mariposa lily, small-flowered morning-glory, and Palmer's grapplinghook, the other three CRPR 4 species continue to have a limited potential to occur on the Project Site. If present it would be in small numbers. CRPR 4 species are defined as plants of limited distribution (a watch list). Similar to the Project, impacts on plants of this ranking may be adverse but are considered less than significant under Alternative 2 and no mitigation would be required.

A total of 49 special status wildlife, including two invertebrates, two amphibians, nine reptiles, 24 birds, and 12 mammals, were identified during the literature search as potentially occurring in the Project region.

Two special status wildlife were observed during surveys including the red-diamond rattlesnake and Cooper's hawk. Concern for the Cooper's hawk is related to potential impacts to active nests. Nine special status wildlife species have a low potential to occur, two have a moderate potential to occur, and two have a high potential to occur on the Project Site. The removal of 3 acres of habitat would result in the direct loss of these special status wildlife, if any actually occur, or displace more mobile species, forcing them to move to adjacent open space where they would have to compete for resources. In general, the limited number of vegetation alliances and habitat types, the dominance of non-native annual grasslands, and the disturbed condition of the existing habitats due to cattle grazing reduce, habitat suitability and the potential for special status wildlife to occur (especially in substantial numbers). In addition, similar habitat in the region and the 132.2 acres of the Project Site that would remain as open space provide similar habitat for their persistence on the Project Site.

None of the wildlife discussed above are listed, proposed for listing, or a candidate for listing as threatened or endangered, and adverse impacts to these species (if they were to occur) would be unlikely to substantially affect regional populations or cause any trend toward listing them under state or federal ESAs. Therefore, similar to the Project, impacts on these species may be adverse under Alternative 2, but are considered less than significant and no mitigation is required.

The burrowing owl, a CDFW Species of Special Concern, occurs in grasslands, lowland scrub, agricultural lands, desert floors, and scrublands characterized by low growing vegetation. They require large open expanses of sparsely vegetated habitat on gently rolling or level terrain with an abundance of active small mammal burrows. Burrows are an essential component of burrowing owl habitat because they provide protection, shelter, and nest sites. Burrowing owls typically use modified burrows made by fossorial mammals, especially those of ground squirrels and other rodents, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

No burrowing owls or diagnostic signs of their presence (e.g., burrows, cast pellets, feathers, or whitewash clustered at a burrow) were detected on the Project Site during the general biological survey or during focused surveys conducted in 2022 (LBC 2022a), and the burrowing owl is not expected to occur on the Project Site now or in the near future, so additional surveys are not warranted prior to construction. Therefore, similar to the Project there would be no impacts to the burrowing owl and no mitigation would be required under Alternative 2.

Similar to the Project, Alternative 2 would adversely impact special status plant species, burrowing owls, and gnatcatchers; however, because of the reduced area of disturbance, these impacts would be less. Similar to the Project, impacts on plants may be adverse but are considered less than significant under

the Project and as a result, under Alternative 2 and no mitigation would be required. Alternative 2 would be required to implement the same mitigation measure **MM BIO-2** related to nesting birds on the Project Site. Therefore, impacts would be less than those of the Project and less than significant with mitigation.

*Would the alternative h*ave *a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?*

Three unnamed drainages are located within the boundaries of the Project Site. One drainage is subject to USACE jurisdiction, and all three drainages are subject to RWQCB and CDFW jurisdiction in some capacity.

Similar to the Project, Alternative 2, development of the Project would include retaining walls that would avoid the delineated limits of waters of the State. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Project Site is located in Carbon Canyon just west of Carbon Canyon Road, and there is ample opportunity for wildlife to move from large blocks of undeveloped land located to the west and east of the Project Site on a regional scale.

Similar to the Project, under Alternative 2 on a local scale, some wildlife may use habitat on the Project Site to move between the blocks of habitat to the east and west, funneled in part by the development north of the Project Site and the ranking may be adverse. Therefore, similar to the Project, Alternative 2 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species and impacts would be less than significant.

Would the alternative conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Similar to the Project, under Alternative 2 development of the single-family homes would directly and indirectly impact the trees on the Project Site through tree removal, encroachment, and diverting runoff and stormwater and due to construction near fuel modifications zones. However, Alternative 2 would also maintain Lot A (approximately 132.2 acres)[2] as undisturbed natural open space area in the western portion of the Project Site, including preservation of the on-site Prominent Ridgeline. As Alternative 2 would develop a maximum of 3 acres it would maintain approximately 82.2 acres more than the Project. Therefore, fewer protected trees would be disturbed under Alternative 2, than that of the Project.

Though Alternative 2 would have less of an impact on trees than the Project, Alternative 2 impacts to on-site trees would still be considered potentially significant. Alternative 2 would be required to implement the same mitigation measure **MM BIO-1** related to on-site tree preservation. Therefore, impacts would be less than those of the Project and less than significant with mitigation.

[2] *This is 50 acres plus remaining 82.2 acres not developed with the residential units.*

Would the alternative conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional or state HCP?

As with the Project, under Alternative 2 the Project Site is not located within Critical Habitat designated by the United States Fish and Wildlife Service (USFWS), a Habitat Conservation Plan (HCP) area, or an established Natural Community Conservation Plan (NCCP). As such, no impacts with respect to conflicts with HCP, NCCP, or other approved local, regional or state HCP would occur, similar to the proposed Project.

3) Cultural Resources

Would the alternative cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

As with the Project, construction under Alternative 2 involves the demolition of the existing 1,250 square foot, three-bedroom single family home, barn, and stables and the development of single-family homes on the Project Site. The existing buildings located on APN-1000-051-09 were constructed between 1920 and ca. 2005. The property is comprised of two historic-period residences (Buildings 1, constructed 1920; and 3, constructed ca. 1952), two historic-period barns (Buildings 2, constructed ca. 1938; and 8, constructed ca. 1952), a historic-period shed and associated corral (Building 4, constructed ca. 1959), a historic-period garage (Building 9, constructed ca. 1959), a historic-period cistern (Building 11, constructed ca. 1938), and four additional non-historic period buildings (Buildings 5,6,7,10; constructed ca. 2002-2005).

The existing buildings located at APN 1000-051-09 were evaluated for historical significance by applying the criteria of the CRHR using data gathered during the pedestrian survey and information acquired through historical research. Kleinfelder concludes that the buildings located at APN 1000-051-09 are not collectively or individually eligible for inclusion in the CRHR. Therefore, the buildings located at APN 1000-051-09 are not considered historical resources for the purposes of CEQA.

Therefore, similar to the Project, Alternative 2 would not result in a substantial adverse change to historical resources pursuant to Section 15064.5(b) of the CEQA Guidelines and impacts would be less than significant.

Would the alternative cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As with the Project, construction for Alternative 2 involves the development of single-family homes on the Project Site. Construction for Alternative 2 would consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, building, paving, and architectural coating on the Project Site. Although excavation would be less than what would be required for the Project's, since the Alternative would develop fewer single-family homes, there is still a potential to uncover archaeological resources from site grading and foundation excavation. Alternative 2 would be required to implement the same mitigation measures **MM CUL-1** through **MM CUL-2** related to the discovery of unknown archaeological resources as the Project. Therefore, impacts would be similar to those of the Project and less than significant with mitigation.

Would the alternative disturb any human remains, including those interred outside of dedicated cemeteries?

As with the Project, construction for Alternative 2 involves development of single-family homes. The Project Site would not disturb any human remains. However, similar to the Project, in the event that human remains are encountered unexpectedly during grading or construction activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If human remains of Native American origin are discovered during construction, compliance with State laws, which fall within the jurisdiction of the Native American Heritage Commission (PRC Section 5097), relating to the disposition of Native American burials would be required. Considering that compliance with regulatory standards described above would ensure appropriate treatment of any human remains unexpectedly encountered during grading activities. Alternative 2 would be required to implement the same mitigation measure MM CUL-3 related to the discovery of human remains as the Project. Therefore, impacts would be similar to those of the Project and less than significant with mitigation.

4) Geology/ Soils

Would the alternative directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology 30 Special Publication 42?

As with the Project, construction for Alternative 2 involves the development of single-family homes. The Project Site is not located within a designated Alquist-Priolo Earthquake Fault Zone.[3] According to the California Geological Society, the nearest Earthquake Fault Zone is the Whitter Fault Zone, an approximately 25-mile long zone running along the Chino Hills mountain range, located approximately 3.91 miles to the west of the Project Site.[4] The Chino Hills Fault is located 4.2 miles east of the Project Site. The Project Site is not located within a City-designated Fault Rupture Study Area.[5] No faults are known to occur within the Project Site. Thus, the potential for fault rupture at the Project Site would be low.

Alternative 2 would be required to comply with applicable State and local building and seismic codes. Final design-level soils and geological reports would be submitted to the City of Chino Hills Department of Building and Safety for review and approval as part of the standard building permit submittal package prior to construction. Therefore, impacts would be similar to those of the Project and less than significant.

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[3] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

[4] *California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: June 2021.*

[5] *California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigations Interactive Map Viewer, accessed: June 2021.*

Would the alternative directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
ii. Strong seismic ground shaking?

Similar to the Project, under Alternative 2, the Project Site is located in the seismically active region of Southern California, and therefore, is susceptible to ground shaking during a seismic event. There are several active faults in the region, including the Whitter Fault Zone which is located west Similar to the Project, Alternative 2 would be subject to the California Building Code seismic design force standards. In addition, Alternative 2 would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
iii. Seismic-related ground failure, including liquefaction?

Liquefaction describes a phenomenon where cyclic stresses, which are produced by earthquake-induced ground motions, create excess pore pressures in cohesionless soils. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation and settlement of loose sediments, ground oscillation, flow failure, loss of bearing strength, ground fissuring, and sand boils, and other damaging deformations. This phenomenon occurs only below the water table, but after liquefaction has developed, it can propagate upward into overlying, non-saturated soils as excess pore water escapes. The possibility of liquefaction occurring at a given site is dependent upon the occurrence of a significant earthquake in the vicinity, sufficient groundwater to cause high pore pressures, and on the grain size, relative density, and confining pressures of the soil at the site.

Groundwater was encountered in the hollow-stem auger borings at depths ranging from 22 to 33 feet below ground surface (bgs) within older alluvium in the eastern portion go the Project Site. Relatively loose sands and firm sandy clay soils were generally encountered in Borings HS-1 through HS-3 at depths ranging from 20 feet to 40 feet. As a result, several soil layers within the alluvial deposits encountered in the boring would be susceptible to liquefaction. The potentially liquefiable soils are generally encountered between 25 and 40 feet bgs.

Based on the upper 30 to 40 feet of material (native soil plus compacted fill) being non-liquefiable, the potential for surface manifestations of liquefaction as bearing failures and sand boils is considered low, and the encountered Puente Formation bedrock is not expected to be susceptible to liquefaction. Therefore, impacts would be similar to those of the Project and less than significant.

Seismically-induced settlement or compaction of dry or moist, cohesionless soils can result from earthquake ground motion. Such settlements are typically most damaging when the settlements are differential in nature across the length of structures. Some seismically-induced settlement of structures within the Project Site are expected as a result of strong ground shaking. In addition, onsite alluvial soils are susceptible to significant seismic settlement However, after over excavation of the alluvial soils as recommended in the Geotechnical Investigation, total seismic settlement is expected to be 1.5 inch or less. Differential settlement resulting from seismic would be reduced. Therefore, Alternative 2 would not exacerbate existing environmental conditions related to seismic-induced settlement or collapse. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
iv. Landslides?

The Project Site is located within a hillside area, and is located in a Landslide Zone.[6] Although Alternative 2 is also located in a Generally Susceptible Area for landslides,[7] evidence of landslides were not observed during aerial review of the Project Site, surficial geologic mapping and down-hole logging of large-diameter boring during the study. Similar to the Project, Alternative 2 would not be significantly impacted by hazards from landslides, settlement, or slippage and proposed grading would not adversely impact the stability of the adjacent properties.[8]

Similar to the Project, Alternative 2 would be would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, the Project would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative result in substantial soil erosion or the loss of topsoil?

The Project Site is located within a hillside area, and is located in a Landslide Zone.[9] Due to the temporary nature of the soil exposure during the grading and excavation processes, substantial erosion is unlikely to occur. The potential for erosion on the fill slopes or other graded areas is expected to be moderate. Furthermore, during this period, Alternative 2 would be required to prevent the transport of sediments from the Project Site by stormwater runoff and winds through the use of appropriate Best Management Practices (BMPs). Regional Water Quality Control Board regulations pertaining to surface water runoff and water quality (which would require BMPs) for construction projects would prevent significant impacts related to erosion and other geological impacts.

Similar to the Project, Alternative 2 would be required to follow provisions for surface drainage, terrace drains, slope planting, and other measures in accordance with City of Chino Hills and California Building Code (CBC) guidelines will provide long term protection. Recommendations in the Geotechnical Investigation also include slope protection polymers, straw waddles and/or other jute mesh should be considered to limit the amount of erosion on slopes or graded areas subject to erosion until landscaping and other permanent erosion protection measures are fully placed.

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[6] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

[7] *Chino Hills General Plan, Chapter 5 Safety Element, Figure 5-5, Landslide Susceptibility, accessed June 2021.*

[8] *Geotechnical Investigation Proposed Paradise Ranch Residential Development West of Canyon Hills Road and South of Esquiline and Alpine Drives City of Chino Hills, California, prepared by Leighton And Associates Inc., July 15, 2019.*

[9] *California Department of Conservation, California Geologic Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/eqzapp/app/, accessed June 2021.*

Operation of Alternative 2 would not have any impact with regard to soil erosion or loss of topsoil as the entire Project Site would be developed. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As discussed above, evidence of landslides were not observed on the Project Site. The site is not expected to be susceptible to liquefaction, lateral spreading, subsidence, or seismic-induced settlement or collapse.

Similar to the Project, Alternative 2 would be would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, the Project would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Earth materials present at finish pad grade of the Project Site are expected to consist of silty sand to clayey silt. Laboratory testing performed during this investigation onsite indicated low soil expansion potential. As a result development of Alternative 2 would occur on expansive soils.

Similar to the Project, Alternative 2 would be required to comply with the City Building Code, which incorporates, with local amendments, the latest editions of the International Building Code and California Building Code. In addition, Alternative 2 would be required to comply with the CHMC building foundation requirements appropriate to the site-specific conditions, the recommendations enumerated in the Geotechnical Investigation, and the conditions of approval from the Chino Hill Department of Building & Safety. Therefore, impacts would be similar to those of the Project and less than significant.

Would the alternative have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?

Alternative 2 would be served by a public sewer system. Therefore, no septic tanks or alternative wastewater disposal systems would be necessary. Therefore, no impacts would occur, similar to those of the Project.

Would the alternative directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 2 would require excavation below the surface to construct building foundations, and infrastructure and utility improvements (e.g., sewer, electrical, water, and drainage systems). Thus, the possibility exists that excavation into high sensitivity sediments could significantly impact paleontological resources that were not encountered during prior construction or other human activity.

Alternative 2 would be required to implement the same mitigation measure **MM GEO-1** which involves the retention and involvement of a Qualified Paleontologist to provide technical and compliance oversight

of all work as it relates to paleontological resources and a paleontological monitor to monitor all ground disturbing activities in previously undisturbed sediments which have high sensitivity for encountering paleontological resources or as determined necessary by the Qualified Paleontologist. Therefore, impacts would be similar to those of the Project and less than significant with mitigation.

5) Greenhouse Gas Emissions

Would the alternative generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
Would the alternative conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Similar to the Project, Alternative 2 would consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, building, paving that would generate GHG emissions. However, these emissions would be incrementally less than the Project due to the reduction in grading and excavation and the reduction in the number of single-family homes. Alternative 2 would create operational GHG emissions associated with area sources, mobile sources (motor vehicles), energy, water, and solid waste. However, these operational emissions would be incrementally less as well. Therefore, impacts from the generation of GHG emissions under Alternative 2 would be less than under the Project's less than significant.

As with the Project, under Alternative 2 according to the County of San Bernardino Greenhouse Gas Emissions Reduction Plan, "all development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions." The Project's operational GHG emissions do not exceed the County's screening threshold of 3,000 MTCO2e per year. Therefore, similar to the proposed Project, Alternative 2 is consistent with the GHG Plan pursuant to Section 15183.5 of the State CEQA Guidelines. The Alternative 2 will not result in substantial emissions of greenhouse gases and will not conflict with the County of San Bernardino CAP or the goals of AB-32 or SB-32.

Similar to the proposed Project, Alternative 2 would not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHGs. Therefore, impacts from applicable plan, policy or regulations under Alternative 2 would be similar to the Project's less than significant.

6) Noise

Would the alternative result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Similar to the Project, Alternative 2 would subdivide an 85.2-acre property into residential lot. However instead of 51 lots, the Project Site would be subdivided into a total of 12 lots plus Lot A (11 proposed lots and one existing lot, and Lot A).

Similar to the Project, Alternative 2 construction activities within the Project area will consist of demolition of the existing 1,250 square foot residential use, site preparation, on-site grading, building, paving, and architectural coating. Alternative 2 would create construction noise associated with the use of heavy equipment for demolition, excavation for foundations, grading, and building construction that would generate noise. Noise would also be generated from haul trucks, the operation of smaller power tools, generators, and other equipment. Construction noise levels for Alternative 2 at all sensitive receptor locations would be similar to those of the Project as the type of construction equipment and peak daily activities would be similar. However, the duration of construction for Alternative 2 would be shorter than the Project due to less construction and excavation; and as such, sensitive receptors would be exposed to temporary construction noise for a shorter duration of time. Therefore, overall construction noise would be incrementally less than under the Project's less than significant impact.

Operation

Alternative 2 proposes the same types of single-family residential homes as the Project. However, Alternative 2 would result in fewer single-family residential homes (11 total new residential uses). Therefore, vehicular related operational noise impact from Alternative 2 would be less than the Project's less than significant impact. Similar to the Project, on-site noise sources associated with the operations would consist primarily of HVAC/mechanical systems. Therefore, impacts to ambient noise from operations would be similar to the Project and less than significant. Overall, ambient noise from Alternative 2 would be incrementally less than the Project.

Would the alternative result in generation of excessive ground-borne vibration or ground-borne noise levels?

Similar to the Project, construction of Alternative 2 would require the use of heavy equipment for demolition, excavation, and building construction. These activities would generate temporary increases of ground-borne vibration. Alternative 2 would require less excavation than the Project. Additionally, Alternative 2 would require less construction as fewer single-family homes would be constructed. Therefore, the duration of ground-borne vibration or ground-borne noise levels for Alternative 2 would be incrementally less than the Project. However, daily construction vibration levels for Alternative 2 would be similar to the Project since the quantity and type of equipment used on a daily basis would be similar.

For an alternative located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the alternative expose people residing or working in the Project area to excessive noise levels?

As with the Project, construction for Alternative 2 involves the development of single-family residential homes. The closest airport, the Chino Airport is located approximately 11 miles northeast of the Project Site. Sound from the airport currently has no impact on the Project Site. Similar to the Project, Alternative 2 would not result in an expansion or planned expansion of airport operations. Therefore, no impacts would occur, similar to those under the Project.

7) Transportation

Would the alternative conflict with adopted policies, plans, or programs addressing the circulation system, including transit, bicycle and pedestrian facilities?

Similar to the Project, Alternative 2 would be consistent with the with applicable goals, policies, and actions in the Circulation Element of the General Plan that governs the development on the Project Site. Development of the Project includes the construction of three new streets with sidewalks, "A" Street, "B" Street, and "C" Street which provide access to the homes. Vehicle access to the Project Site would be provided via a new intersection between Canyon Hills and "A" Street, and a new intersection between Canyon Hills and "C" Street, thereby discoursing through traffic, creating a safe and efficient neighborhood-friendly street system that enhances the circulation system. Most likely only one of the three streets proposed would be necessary to accommodate Alternative 2, as this alternative would be significantly smaller with 11 new lots as oppose to the Project's 50 new lots. Similar to the Project, Alternative 2 is required to provide covered (within garage) parking spaces and uncovered parking spaces per CHMC Title 16, Chapter 16.34.060, Table 65-1, Number of Automobile Parking Spaces Required, thereby, providing off-street parking for the development. Conflicts and consistency of the Project with the RTP/SCS are addressed in **Table VI-4, Applicable Goals and Strategies of 2020-2045 RTP/SCS**.

Table VI- 4
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
G1: Encourage regional economic prosperity and global competitiveness.	**No conflict.** Although this goal is a plan-level goal, Alternative 2 would be consistent with this goal by developing additional housing in an area designated for housing. The addition of housing units to the Project Site will create additional customers and visitors to local City businesses, promoting economic prosperity in the area.
G3: Enhance the preservation, security, and resilience of the regional transportation system.	**No conflict.** Although this goal is a plan-level goal, Alternative 2 would be consistent with this goal by providing additional housing units with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The additional ridership for the OmniRide microtransit service

Table VI- 4
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
	created by the Project would encourage the economic viability of the transit.
G5: Reduce greenhouse gas emissions and improve air quality.	**No conflict.** Although this goal is a plan-level goal, Alternative 2 would incorporate building technologies and design features that would save energy (which would also reduce air emissions associated with electricity generation). Therefore, Alternative 2 would reduce potential GHG emissions, improve air quality.
G6: Support healthy and equitable communities.	**No conflict.** Although this goal is a plan-level goal, Alternative 2 would be consistent with this goal by providing an increase in the number of housing units available on the Project Site, in an area with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The Alternative 2 is located proximate to a transit service, thereby reducing vehicle emissions, and would incorporate building technologies and design features that would save energy (which would also reduce air emissions associated with electricity generation).
G7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	**No conflict.** Although this goal is a plan-level goal, Alternative 2 would be consistent with this goal. Similar to the Project, Alternative 2 residences would be designed to meet the requirements of the most current California Green Building Code and CHMC Section 16.09.090. The Project would include the following water conservation techniques: • Water conserving plants, and plants native to hot, dry summers, utilized in 95% of the total plant area, • Irrigation zones separated by plant material, • Use of hydro zones with plants grouped based on the amount of water needed to sustain them, • Soil amendments utilized to improve water holding capacity of the soil, • Automatic irrigation system adjusted seasonably add with watering hours between 9:00 p.m. and 9:00 a.m., • Irrigation system design to water different areas of the landscape based on watering need; and • Recommendations given for an annual irrigation schedule.
Focus Growth Near Destinations & Mobility Options	
• Focus on regional jobs/housing balance to reduce commute ties and distances and expand job	**No conflict.** Though Alternative 2 does not expand job opportunities, Alternative 2 would be consistent with this strategy by providing additional housing units in an area

Table VI- 4
Applicable Goals and Strategies of 2020-2045 RTP/SCS

Goals and Strategies	Would the Project Conflict?
opportunities near transit and along center -focused main streets.	with access to the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site. The transit will provide future residents with reliable and safe transportation. The additional ridership created by the Alternative 2 would encourage the economic viability of the transit.
Source: Southern California Association of Governments, Connect SoCal - The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, adopted for federal transportation conformity purposes only on May 7, 2020. Source Table: EcoTierra Consulting, October 2022.	

The Project Site is located adjacent to a mature network of streets that include vehicular facilities. Development of Alternative 2 within this established community would promote a variety of travel choices and housing opportunities in the area. The Alternative 2 would not conflict with RTP/SCS goals to maximize mobility and accessibility for all people and goods in the region, ensure travel safety and reliability, preserve and ensure a sustainable regional transportation system, protect the environment, encourage energy efficiency and facilitate the use of alternative modes of transportation, and Alternative 2 would not conflict with the RTP/SCS strategies to focus growth near destination and mobility options. Thus, similar to the Project, Alternative 2, would not be in conflict with applicable 2020-2045 RTP/SCS goals and strategies. The Alternative 2 is located in an area served by the OmniRide microtransit service which serves residents, visitors, students, and employees in the Chino and Chino Hills area and provides local service to the Project Site.

Similar to the Project, Alternative 2 is substantially consistent with applicable goals, policies, and actions in the Circulation Element of the General Plan that governs the development on the Project Site and the applicable 2020-2045 RTP/SCS goals and strategies. Therefore, this impact would be the same as under the Project.

Would the alternative conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Alternative 2, represents a reduced project development with a reduction in the number of single-family homes. Similar to the Project, Alternative 2 would demolish the 1,250 square foot, three-bedroom single-family home, barn, and stables. Under Alternative 2 the Project Site would subdivide the 85.2-acre property into a total of 13 lots. Lots 1 through 11 will include the development of a single-family homes, ranging in lot size from 7,200 square feet to 12,412 square feet. Similar to the proposed Project, Alternative 2, Lot 12 will maintain the existing single-family home on-site and Lot A will remain vacant native land.

The City of Chino Hills has adopted a VMT policy. Alternative 2 was reviewed against the City's VMT guidelines and screening criteria system to determine if a VMT analysis would be required. Based on the application of the VMT impact analysis methodology, a land use project would be considered to result in a significant VMT impact if the following threshold is met:

- A land use project results in a significant VMT impact if the project-generated VMT per Capita or Employee exceeds a level of 3% below the City Average VMT per Capita or Employee under existing baseline conditions (as of the date this policy is adopted).

Alternative 2 includes the development of 11 single-family homes. A total of 11 single-family homes would result in a daily trip total of 104 trips. Thus Alternative 2 would generate a smaller residential population than the Project, and the overall area-wide VMT would be smaller than the Project. Similar to the Project, Alternative 2 would provide potential mitigation measures to offset the potential impacts. However, based on the location of the Alternative 2, limited Carbon Canyon Road access, and lack of pedestrian access and circulation, the implementation of the above-mentioned mitigation measures or a combination of these mitigation measures would not be applicable, and further, would not be sufficient enough to mitigate the VMT impact of Alternative 2 if it were applied.[10] Therefore, based on a review of Alternative 2 against the City's VMT screening criteria, the per capita VMT of Alternative 2 would still be the same as the Project, because the location of the Alternative 2 is the same as the Project. Thus Alternative 2 would require a VMT analysis, and impacts would be significant and unavoidable and similar to the Project.

Would the alternative substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

As with the Project, construction for Alternative 2 involves the construction of single-family homes. No hazardous design features or incompatible land uses would be introduced that would create significant hazards to the surrounding roadways. Alternative 2 proposes a land use that complements the surrounding development and utilizes the existing roadway network. Alternative 2's driveways would conform to the City's design standards and would provide adequate sight distance, sidewalks, and pedestrian movement controls meeting the City's requirements to protect pedestrian safety. Therefore, no impacts would occur, similar to those under the Project.

Would the alternative result in inadequate emergency access?

As with the Project, construction for Alternative 2 involves the construction of single-family homes. Similar to the Project, Alternative 2 would implement all required design features contained within the Fire Protection Plan (FPP), including those pertaining to emergency access. These design features would be reviewed and approved by Chino Valley Independent Fire District (CVIFD) and the Chino Hills Public Works Department during building plan check, prior to the start of construction. The purpose of these design features is to minimize the cutting-off of the home owners egress due to a wildland fire occurrence and for safe ingress by emergency responders. Accordingly, through compliance with existing regulations, the Alternative 2 would not result in inadequate emergency access and similar to the Project, impacts would be less than significant.

[10] *A further discussion of the mitigation measures and why they are not feasible can be found in Appendix H.3. A Supplemental Vehicles Miles Traveled Analysis for the Proposed Paradise Ranch Residential Project-Chino Hills, California prepared by Linscott, Law & Greenspan, Engineers Inc., Pages 3-4, October 7, 2022.*

8) Tribal Cultural Resources

Would the alternative cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
i.Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
ii.A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

In response to AB 52, the City submitted request to consult letters to the identified Native American individuals and organizations on the CEQA Tribal Consultation List on June 8, 2021. Of the two groups and/or individuals contacted, one responded with comments. On June 8, 2021, the City received a letter from the Gabrieleño Band of Mission Indians – Kizh Nation (Kizh Nation) as part of the AB 52 consultations. The Gabrielino Band of Mission Indians – Kizh Nation requested the retention of a Native American Tribal Consultant to monitor all ground disturbance conducted for the Project.

As with the Project, construction for Alternative 2 involves the construction of single-family homes. Construction activities associated with the Project would involve earthmoving activities associated with excavation and grading for the foundations, and the transport and disposal of demolished building materials, as well as excavated soil. Ground disturbance associated with development of the Alternative 2 would be less than that associated with the Project, because it is likely that slightly less grading would be required. Therefore, the likelihood of encountering tribal cultural resources would be similar, but slightly less than the Project.

Similar to the Project, Alternative 2 the identified potential for impacts to tribal cultural resources associated with implementation of the Project would be significant but mitigable with the implementation of a monitoring program. Alternative 2 would be required to implement the same mitigation measure **MM TCR-1** which requires retention of a qualified Native American Monitor to monitor all grading and excavation activities within the Project Site. Therefore, impacts would be similar to those of the Project and less than significant with mitigation.

9) Wildfire

The Alternative 2 would result in 11 units constructed at the Project Site. While the number of residences would be reduced, the exposure to wildland fire risk of loss would be similar to that of the Project for those residences located on-site. Additionally, because the Project Site access points are based on existing Canyon Hills Road, emergency response and evacuation impacts would be the same under Alternative 2 as those identified for the Project, although they would affect a reduced number of residents. Although the reduced units would meet the building separation requirements under Chino Hills Municipal Code Chapter 16.22 Fire Hazard Overlay District, mitigations for these impacts under Alternative 2 would be similar to those identified for the Project (construction consistent with 2019 California Residential Code Section R337 and automatic fire sprinklers) and would reduce impacts to a less than significant level with implementation of the Fire Protection Plan. The Alternative 2 would result in less than significant impacts

associated with wildfire pollutants or uncontrolled spread of a wildfire, infrastructure, or post-fire risks, similar to the Project, although they would affect a reduced number of residents.

iii) Relationship of the Alternative to the Project Objectives

Alternative 2, Reduced Density Development, represents a reduced project alternative with a reduction in the number of single-family homes. Similar to the Project, Alternative 2 would demolish the 1,250 square foot, three-bedroom single-family home, barn, and stables. Under Alternative 2 the Project Site would subdivide the 85.2-acre property into a total of 13 lots. Lots 1 through 11 will include the development of a single-family homes, ranging in lot size from 7,200 square feet to 12,412 square feet. Similar to the proposed Project, Alternative 2, Lot 12 will maintain the existing single-family home on-site. Alternative 2 would also maintain Lot A (approximately 132.2 acres)[11] as undisturbed natural open space area in the western portion of the Project Site, including preservation of the on-site Prominent Ridgeline. This alternative was selected to provide residential development for the Project Site, while avoiding sensitive biological resources on the Project Site, and avoiding the unmitigable VMT impacts associated with the Project.

Alternative 2 would meet the following Project Objectives:

- Project Objective 1: Develop an underutilized site with a well-designed and compatible residential Project that is consistent with the character and operational characteristics of surrounding uses in the area.

  Alternative 2 would develop an underutilized site with a well-designed and compatible residential uses consistent with the character and operational characteristics of surrounding uses in the area.

- Project Objective 3: To create a Project that complements and enhances the aesthetic character of the area through high quality urban and architectural design and enhances the area around the Project Site.

  Alternative 2 would develop an underutilized site with a well-designed and compatible residential Project that complements and enhances the aesthetic character of the area through a high quality urban and architectural design.

Alternative 2 would provide new single-family homes, which meet the underlying purpose of the Project. However, with the reduction in development and changes to the site plan that would occur, Alternative 2 would not meet the following Project objectives, to the same extent as the Project:

- Project Objective 2: To provide a Project that is economically viable and increases the number of housing units to help meet the demand for new housing in the City of Chino Hills.

  Although Alternative 2 would provide a project that would increase the number of housing units, the reduction in development would not make the Alternative economically viable and would not help meet the demand for new housing in the City of Chino Hills to the same extent as the Project.

[11] *This is 50 acres plus remaining 82.2 acres not developed with the residential units.*

- Project Objective 4: To create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City.

  Although Alternative 2 would create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City, it would not be to the same extent as the Project due to the reduction in development.

- Project Objective 5: Ensure a financially feasible Project that promotes the City's economic well-being, increases the local tax base.

  Due to the reduction in development, Alternative would not promote the City's economic well-being, and/or increases the local tax base to the same extent as the Project.

iv) Comparison of Project Impacts

A comparison of the impact of each of the alternatives to the Project is summarized in **Table VI-5**, **Summary of Alternatives' Impacts**. The Project would result less than significant impacts to Air Quality, Greenhouse Gas Emission, Noise, and Wildfire. The proposed Project would result in less than significant impacts with mitigation to Biological Resources, Cultural Resources, Geology/Soils, and Tribal Cultural Resources. The proposed Project would generate a significant and unavoidable impact on Transportation(VMT).

Comparatively, although Alternative 2 would generate a smaller residential population than the Project, and the overall area-wide VMT would be smaller than the Project. Alternative 2 would not avoid the significant and unavoidable Project-related impacts to VMT because the location of the Alternative 2 is the same as the Project and as stated previously, mitigation would not be sufficient enough to mitigate the VMT impact of Alternative 2 if it were applied.[12] Thus Alternative 2 would require a VMT analysis, and impacts would be significant and unavoidable and similar to the Project. All other impacts under Alternative 2 would be similar to or less than those of the Project as the development of Alternative 2 would be a smaller scale development than the Project. Furthermore, the Alternative 2 would realize the Project Objectives, just to a lesser degree.

5. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6(e)(2) of the State CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR and that if the "no project" alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

With respect to identifying an Environmentally Superior Alternative among those analyzed in this Draft EIR, the range of feasible alternatives includes the No Project/No Build Alternative; and the Reduced Density Development. **Table VI-5, Summary of Alternative Impacts** provides a comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated

[12] *A further discussion of the mitigation measures and why they are not feasible can be found in Appendix H.3. A Supplemental Vehicles Miles Traveled Analysis for the Proposed Paradise Ranch Residential Project-Chino Hills, California prepared by Linscott, Law & Greenspan, Engineers Inc., Pages 3-4, October 7, 2022.*

with the Project. A more detailed description of the potential impacts associated with each alternative is provided above.

Pursuant to Section 15126.6(c) of the CEQA Guidelines in general, the environmentally superior alternative as defined by CEQA should "avoid or substantially lessen one or more of the significant effects" of the Project, the Project Site and its surrounding environment. Of the alternatives analyzed in this Focused Draft EIR, Alternative 1, the No Project/No Build Alternative would avoid all of the Project's significant environmental impacts, including the Project's significant and unavoidable impacts related to Transportation (VMT). Alternative 1 would also reduce all of the Project's less-than-significant and less-than-significant-with-mitigation impacts. In addition, Alternative 1 does not create any new impacts; therefore, it is the Environmentally Superior Alternative to the Project, which proposes to change existing conditions. However, the No Project/No Build Alternative would not meet any of the Project's basic objectives and would not provide any of the community benefits that would be offered by the proposed Project.

As previously stated, CEQA requires the identification of another Environmentally Superior Alternative when the No Project/No Build Alternative is identified to be environmentally superior to the proposed Project. Alternative 2, Reduced Density Development would be the Environmentally Superior Alternative to the proposed Project. As shown in **Table VI-5, Summary of Alternative Impacts** and as discussed above, although Alternative 2 would not eliminate the Project's significant unavoidable Transportation (VMT) impact, given the reduction in uses, Alternative 2 would reduce many of the Project's less-than-significant and less-than-significant-with-mitigation impacts.

Specifically Alternative 2 would meet Objectives 1 through 5. However, with the reduction in development and changes to the site plan that would occur, Alternative 2 would not meet the Project objectives, to the same extent as the Project. Although Alternative 2 would provide a project that would increase the number of housing units, the reduction in development would not make the Alternative economically viable and would not help meet the demand for new housing in the City of Chino Hills to the same extent as the Project. In addition, Alternative 2 would create economic vitality in the City by creating construction jobs and accommodating new permanent population in the area to support local businesses and promote economic development in the City, just not to the same extent as the Project due to the reduction in development. Furthermore, due to the reduction in development, Alternative 2 would not promote the City's economic well-being, and/or increases the local tax base to the same extent as the Project.

Therefore, while Alternative 2 would provide most of the City economic benefits of the Project, it would not be as effective in meeting the underlying purpose or objectives of the Project as it would be less intensive than the Project and, thus, not provide the same number of construction jobs, and not strengthen the economic vitality, etc., to the same degree as the Project. However, based on the range of alternatives analyzed, Alternative 2 would be the Environmentally Superior Alternative.

Table VI-5
Summary of Alternative Impacts

Impact Area	Proposed Project Impact	Alternative 1: No Project/No Build	Alternative 2: Reduced Density Development
Air Quality			
Air Quality Plan Conflict	LTS*	Less	Less
Criteria Pollutants	LTS	Less	Less
Sensitive Receptors	LTS	Less	Less
Odors		Less	Similar
Biological Resources			
Habitat Modification	LTS W/M	Less	Similar
Riparian Habitat	LTS W/M	Less	Less
Protected Wetlands	LTS	Less	Similar
Movement of Wildlife	LTS	Less	Similar
Biological Ordinance (Tree Preservation)	LTS W/M	Less	Less
Conflict HCP, NCCP	NI	Similar	Similar
Cultural Resources			
Historic Resource	LTS	Less	Similar
Archaeological Resources	LTS W/ M	Less	Similar
Human Remains	LTS W/ M	Less	Similar
Geology/Soils			
Earthquakes	LTS	Less	Similar
Seismic Ground Shaking	LTS	Less	Similar
Liquefaction	LTS	Less	Similar
Landslides	LTS	Less	Similar
Erosion	LTS	Less	Similar
Unstable Soil	LTS	Less	Similar
Expansive Soil	LTS	Less	Similar
Septic Tanks	LTS	Similar	Similar
Paleontology	LTS W/M	Less	Similar
Greenhouse Gas Emissions			
Emissions	LTS	Less	Similar
Plans and Policies	LTS	Less	Similar
Noise			
Construction/Traffic Noise	LTS	Less	Similar
Operation	LTS	Less	Similar
Construction/Operation Vibration	LTS	Less	Similar
Private Airstrip	NI	Similar	Similar
Transportation			
Plans and Policies	LTS	Less	Similar
VMT	SU	Less	Similar
Design	LTS	Less	Similar
Emergency Access	LTS	Less	Similar
Tribal Cultural Resources			
Adverse Change to TCR	LTS W/M	Less	Similar
Wildfire	LTS	Less	Similar

**Notes:*
NI=No Impact; LTS=Less Than Significant; LTS W/M= Less Than Significant With Mitigation; SU=Significant Unavoidable
Source: EcoTierra Consulting, Inc.

VII. EFFECTS FOUND NOT TO BE SIGNIFICANT

1. INTRODUCTION

This Focused EIR section addresses potential environmental resources for which the Project would not result in significant impacts related to the environmental topics listed below. California Public Resources Code Section 21003(f) states:

> *"…it is the policy of the State that…all persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment."*

The lead agency, the City of Chino Hills, has determined that the Project would not result in potentially significant impacts related to the environmental topics listed below. Pursuant to Section 15128 of the State CEQA Guidelines:

> *"An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."*

Based on a preliminary review of the Project, the City of Chino Hills determined that the Project could result in potentially significant environmental impacts. Therefore, the City prepared and circulated a Notice of Preparation (NOP) to the State Clearinghouse, relevant agencies, and interested parties as well as occupants/owners with a 300-foot radius of the Project Site. The City circulated the NOP for this Project for 30 days from March 30, 2022 to April 29, 2022. A public scoping meeting presenting the Project was held by the City on April 13, 2022. A total of eight comment letters were received in response to the NOP. CEQA Guidelines, Appendix G, provides thresholds for significance that are used by the City of Chino Hills in the Initial Study prepared for the Project. The NOP and Initial Study prepared for the City of Chino Hills is provided in Appendix A to this Focused EIR.

2. EFFECTS FOUND NOT TO BE SIGNIFICANT

The EIR addresses the environmental issues where the Project could result in potentially significant impacts. For all other issues considered in the City's environmental checklist, it was determined in the Initial Study (see Appendix A) that either impacts would not be significant or could be reduced to a less than significant level with implementation of standard mitigation measures. Therefore, based on the Initial Study , the City, acting as Lead Agency, has determined that there is no substantial evidence that the Project could cause a significant environmental effect relative to topics listed below. Therefore, this is a Focused EIR, which addresses only the environmental issues where the Project could result in potentially significant impacts. All of the environmental topics below were found not to be significant or could be reduced to a less than significant level with implementation of standard mitigation measures. Therefore, these topics are fully analyzed in the Initial Study (see Appendix A) and the Focused EIR does not include additional discussion of these topics:

- **Aesthetics** – All subtopics
- **Agricultural/Forestry Resources** – All subtopics
- **Energy** – All subtopics
- **Hazards & Hazardous Materials** – All subtopics
- **Hydrology/Water Quality** – All subtopics
- **Land Use/Planning** – All subtopics
- **Mineral Resources** – All subtopics
- **Population/Housing** – All subtopics
- **Public Services** – All subtopics
- **Recreation** – All subtopics
- **Utilities/Service Systems** – All subtopics
- **Wildfire** – All subtopics

Refer to the Initial Study found in Appendix A to the Focused EIR for the detailed analysis of these issue areas.

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IX. ACRONYMS AND ABBREVIATIONS

AAM	Annual Arithmetic Mean
AB	California Assembly Bill
ADPA	Archaeological Data Preservation Act
ADT	Average Daily Traffic Volumes
AF/YR	Acre-feet Year
AMC	Antecedent Moisture Content
APN	Assessor Parcel Number
APS	Alternate Planning Strategy
AQMP	Air Quality Management Plans
ARPA	Archaeological Resources Protection Act
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
C&D	Construction and Demolition
CAFÉ	Corporate Average Fuel Economy
CALEPA	California Environmental Protection Agency
CALFIRE	California Department of Forestry and Fire Protection
CALGEM	California Division of Oil, Gas, and Geothermal Resources
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCR	California Code of Regulations
CCWRF	Carbon Canyon Water Recycling Facility
CDA	Chino Basin Desalter Authority
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CF	Cubic Feet
CFS	chlorofluorocarbons
CH_4	Methane
CHMC	Chino Hills Municipal Code

CIMP	Construction Impact Management Plan
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	Noise Compatibility Matrix with Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRES	Controlled RECs
CRHR	California Register of Historic Places
CSU	California State University
CVC	California Vehicle Code
CVIFD	Chino Valley Independent Fire District
CVUSD	Chino Valley Unified School District
CWA	Clean Water Act
dB	Decibel
dBA	Decibel Scale
DBH	Diameter at Standard Height
DPM	Diesel Particulate Matter
DMP	Diesel Particulate Matter Filters
DOT	Department of Transportation
DRA	Drought Risk Assessment
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EMFAC	Emissions Factor
EPA	US Environmental Protection Agency
FAA	Federal Aviation Agency
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMZ	Fuel Modification Zones
FPP	Fire Protection Plan
GAC	Granular Activated Carbon
GHG	Greenhouse Gas
GIS	Geographic Information System
GLO	General Land Office
GPCD	Gallons per Capita per Day
gpd	Gallons per Day
GVWR	gross vehicle weight rating
GWh	Gigawatt-Hours
H_2S	Hydrogen Sulfide

HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HOA	Homeowners Association
HP	Horsepower
HQTA	High Quality Transit Areas
HRA	Health Risk Assessment
HREC	Historical RECs
IEUA	Inland Empire Utilities Agency
kWh	Kilowatt-Hours
LBC	Leatherman BioConsulting, Inc.
LOS	Level of Significance
LST	Localized Significant Thresholds
MBTA	Migratory Bird Treaty Act
MELLO	Model Water Efficient Landscape Ordinance
MGD	Million Gallons per Day
MLD	Most Likely Descendant
MMTCO2e	Million Metric Tons of Carbon Dioxide Equivalent
MPH	Miles Per Hour
MPO	Metropolitan Planning Organizations
MS4	Municipal Separate Storm Sewer System
MSL	Mean Sea Level
MVWD	Monte Vista Water District
MWD	Metropolitan Water District
NCCP	Natural Community Conservation Plan
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEHRP	National Earthquake Hazards Reduction Program
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NMA	Neighborhood Mobility Areas
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NO_x	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act

NRHP	National Register of Historic Places
O_3	Ozone
OCP	Organochlorine Pesticide
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OHWM	Ordinary High-Water Mark
ONAC	Federal Office of Noise Abatement and Control
ONC	California Department of Health Services Office of Noise Control
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
Pb	Lead
PGA	Priority Growth Areas
PM	Particulate Matter
PPM	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
PRPA	Paleontological Resources Preservation Act
PV	Photovoltaic
REC	Recognized Environmental Conditions
REMEL	Reference Energy Mean Emission Level
RNCM	Roadway Construction Noise Model
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SB	California Senate Bill
SBCFCD	San Bernardino County Flood Control District
SBCL	San Bernardino County Library System
SBSD	San Bernardino County Sheriff's Department
SBTAM	San Bernardino County Transportation Analysis Model
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coast Information Center
SCE	Southern California Edison
SED	Socio-Economic Data
SF	Square Feet
SFL	Sacred Lands File

SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SOI	Secretary of the Interior's
SR	State Route
SCS	Sustainable Communities Strategy
SVOC	Semi-Volatile Organic Compound
SVP	Society for Vertebrate Paleontology
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TAG	Transportation Assessment Guidelines
TCR	Tribal Cultural Resources
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Load
TPA	Transit Priority Areas
TPH	Petroleum Hydrocarbons
TTM	Tentative Tract Map
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VdB	Vibration Decibels
VDECS	Verified Diesel Emission Control Strategies
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WFA	Water Facilities Authority
WQMP	Water Quality Management Plan

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